S. HRG. 98-986

TRANSFER OF TECHNOLOGY

HEARINGS

BEFORE THE

PERMANENT SUBCOMMITTEE ON INVESTIGATIONS

OF THE

COMMITTEE ON GOVERNMENTAL AFFAIRS UNITED STATES SENATE

NINETY-EIGHTH CONGRESS

SECOND SESSION

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TRANSFER OF TECHNOLOGY

MONDAY, APRIL 2, 1984

U.S. SENATE,
PERMANENT SUBCOMMITTEE ON INVESTIGATIONS
OF THE COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The subcommittee met at 10 a.m., pursuant to call, in room SD-342, Dirksen Senate Office Building, under authority of Senate Resolution 354, section 13, agreed to March 2, 1984, Hon. Sam Nunn (acting chairman of the subcommittee) presiding.

Members of the subcommittee present: Senator Sam Nunn, Democrat, Georgia; Senator Warren B. Rudman, Republican, New Hampshire; and Senator Jeff Bingaman, Democrat, New Mexico.

Members of the professional staff present: S. Cass Weiland, chief counsel; Eleanore J. Hill, chief counsel to the minority; Katherine Bidden, chief clerk; Mary Robertson, assistant chief clerk to the minority; David Glendinning, staff counsel, majority; Dan Kalinger, press secretary; and Fred Asselin, Glenn Fry, and Leonard Willis, minority staff investigators.

[Members of the subcommittee at the time of convening: Senator Nunn and Senator Bingaman.]

Senator NUNN. The Permanent Subcommittee on Investigations will be in order.

[Letter of authority follows:]

U.S. SENATE,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
SENATE PERMANENT SUBCOMMITTEE ON INVESTIGATIONS,
Washington, DC.

Pursuant to rule 5 of the Rules of Procedure of the Senate Subcommittee on Investigations of the Committee on Governmental Affairs, permission is hereby granted for the chairman, or any member of the subcommittee as designated by the chairman, to conduct open and/or executive hearings without a quorum of two members for the administration of oaths and taking testimony in connection with hearings on Transfer of Technology, to be held on April 2, 3, 11, and 12, 1984.

WILLIAM V. ROTH, Jr.,
Chairman.

SAM NUNN,
Ranking Minority Member.

OPENING STATEMENT OF SENATOR NUNN

Senator NUNN. The Senate Permanent Subcommittee on Investigations today resumes its examination of executive branch operations in the drafting, implementing, and enforcing of export controls, particularly concerning the transfer of militarily useful high technology from the West to the Soviet Union and East bloc nations.

The subcommittee held hearings on this issue in May 1982 and filed a report in the following November. Among the subcommittee's findings was the recognition that improvements were needed in the enforcement of the Export Administration Act, the Federal statute under which the Government controls civilian exports. Investigation by the subcommittee minority staff indicated that the Commerce Department, which has responsibility for enforcement of export controls on militarily useful civilian technology, was not carrying out this duty in an effective or efficient manner. It was also revealed that the Customs Service, which also has responsibilities in the enforcement of export controls, and the Commerce Department were not working together in a cooperative fashion. In testimony before the subcommittee, witnesses from both agencies agreed that improvements were needed and assured us that the necessary reforms would be carried out.

One of the matters the subcommittee will review today will be the degree to which the Commerce Department and the Customs Service are working in close harmony in enforcing the Export Administration Act. The subcommittee will want to know the extent of cooperation between the two agencies, especially the sharing of pertinent information. It has been my personal opinion for some time that serious problems may ensue when two components of the Government are charged with the same mission. With Senator Chiles, I introduced legislation to remove the enforcement function from the Commerce Department and give it to Customs. Located in a Cabinet-level Department with extensive experience in law enforcement, the Customs Service, it seems to me, is the more appropriate agency to develop and investigate information on reported technology diversions. Similarly, my view was that the Commerce Department with its longtime experience in the export licensing field could make a stronger contribution to export control activities by strengthening its licensing mechanism. With Commerce doing a more thorough job in licensing and with Customs handling enforcement, it is possible to make genuine progress in export control programs. Transfer of the enforcement function to Customs is part of the Senate version of the renewal of the Export Administration Act now being considered in the House-Senate Conference Committee. The House bill does not contain that provision.

No matter what the outcome of the conference committee the relationship between Customs and Commerce is still important. If the enforcement function remains in Commerce, the Customs Service will still have a role to play in export controls. Cooperation between the two agencies will continue to be essential. If the enforcement mission goes to Customs, cooperation will remain vital because the licensing duties, as now, will reside in Commerce. Licensing is the first line of defense in effective enforcement and intelligence-gathering. Customs should have prompt and comprehensive support from the licensing office in the Commerce Department. In any event, petty bureaucratic squabbling and in-fighting should not be tolerated by managers in both Customs and Commerce. The American people expect Government agencies to work together in denying designated high technology products and know-how to the

Nation's adversaries. Needless competition is counterproductive. Today the subcommittee will ask officials of both Customs and Commerce about this issue.

In addition to the enforcement of the Export Administration Act, the subcommittee in its hearings of 1982 examined the ability of the affected agencies of the executive branch to work with U.S. allies and friends in assuring cooperative export control programs. Such joint efforts are necessary because the United States is not a sole source for much of the high technology in the world today. The most effective controls on products of U.S. origin will be of little value if the Soviets and their satellites can obtain similar technology in Japan or the West. Cooperation with the Allies and Japan must be a high priority.

Cooperation among the NATO Allies and Japan is export controls is pursued in Cocom, the Coordinating Committee for Multilateral Export Controls, which meets regularly in Paris. Comprised of Japan and all NATO countries except Spain and Iceland, Cocom was formed in 1949 to enable these nations to work together in denying the export to the Soviet Union and Soviet bloc of civilian technology that has major military applications. Critics have charged that Cocom has been ineffective. Others have defended the organization, saying it is effective and is the United States' best vehicle to bring about cooperation with the other high technology exporting nations. Controversy surrounding Cocom surfaced in September 1983 when the chief negotiator of the American team to Cocom resigned in protest, alleging that, "The arrogance of the United States Government is rapidly eroding the effectiveness of controls on the export of strategic equipment and technology." In a letter to the President and the Congress, William A. Root, who had headed the U.S. negotiating team to Cocom for several years, went on to say, "Those who proclaim the loudest the need to strengthen these (export) controls are doing the most to weaken them." Mr. Root's detractors say Cocom negotiations are better without him and that the conflicts he raised have been reconciled.

Preliminary investigation by the subcommittee staff has indicated that there is a deeply felt debate going on in the executive branch today over the issue of U.S. negotiating procedures and policies at Cocom. The subcommittee has taken no side in this issue. But this matter is of such importance that Congress is obliged to review it.

These two issues—cooperation between Customs and Commerce in carrying out the enforcement function; and U.S. procedures and policies at Cocom—will be reviewed by the subcommittee today.

Our first witness this morning is Mr. William A. Root. Mr. Root was the former chief, U.S. negotiating team to Cocom.

Mr. Root, we appreciate you being here today. If you will come forward. We appreciate your cooperation with the subcommittee. We look forward to hearing your points of view.

We swear in all our witnesses in this subcommittee. If you will take the oath, we will appreciate it.

Do you swear the testimony you are about to give, will be the truth, the whole truth, and nothing but the truth, so help you God?

Mr. ROOT. I do.

Senator NUNN. Mr. Root, I know you have a prepared statement which we welcome. Now that we have our court reporter here, you may proceed.

TESTIMONY OF WILLIAM A. ROOT, FORMER CHIEF, U.S. NEGOTIATING TEAM TO COCOM

Mr. ROOT. Thank you, Mr. Chairman. I appreciate your invitation for me to testify concerning the efficiency and effectiveness of the U.S. efforts to work with the NATO Allies and Japan in setting and enforcing export controls. I particularly appreciate the opportunity to address this subcommittee on such an important subject.

I request that my prepared statement, together with four attachments, be included in the record.

Senator NUNN. Without objection, it will be included.[1]

Mr. ROOT. Thank you. I would like now to summarize the main points in that statement.

My thesis is that insistance by the Policy Office in the Department of Defense on rigid adherence to original U.S. proposals to strengthen multilateral restrictions results in less, rather than more, control on strategic exports. Our Allies are willing to cooperate; but they will not follow us blindly.

Senator NUNN. Mr. Root, I know you are going to go into more detail later in your statement on that particular point, which is an important one. Are you saying that this is past tense? What you call rigid adherence to original U.S. proposals, or are you saying that is current policy? Are we talking in the past or are we talking in the present?

Mr. ROOT. I cannot testify as to the positions of the various agencies in the U.S. Government since my resignation in September. I can testify concerning events prior to September.

Senator NUNN. Well, we would like to hear more specifics on that point.

Mr. ROOT. On that particular point, the Policy Office in Defense, which DOD designated to State a few years ago, as responsible for providing the official Defense position on multilateral security export control matters, insisted in 1983 during a critical point in the international negotiations on updating computer controls that the U.S. position not deviate from that which had been submitted several months before. The U.S. position referred to was prepared before extensive discussion with our Allies indicated unequivocally that changes would be necessary in order to reach agreement. The Allied suggestions for changes were, in many respects, reasonable and constructive. The effect of the DOD rigid position in 1983 was to delay by at least a year the entry into force of needed strengthening of computer export controls.

Senator NUNN. You are saying those compromises were made later, but we stuck to our original position so long that there was a delay or are you saying those compromises never were made?

Mr. ROOT. To my knowledge, and this is secondhand since I have not been in the Government since September, agreement has still not been reached in the international forum on this important item.

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[1] See p. 231 for the prepared statement of William A. Root.

Senator NUNN. Well, I don't want to put words in your mouth. I am not sure I completely understand the point. Are you saying that in the interim period because we have adhered to what you call a rigid position that we still do not have the kind of cooperative effort that is necessary if we are going to be effective in export controls?

Mr. ROOT. That is correct, at least on this item, which is a very important item.

Senator NUNN. Which item are you specifically referring to?

Mr. ROOT. The computer definition which goes into considerable detail as to which types of computers and software and related equipment are subject to effective controls.

Senator NUNN. So in the area of computer equipment, what you basically are saying is that we have no international Cocom cooperation at this point because, as far as you know, the matter is still in dispute?

Mr. ROOT. We, of course, have cooperation based on an approximately 10-year-old definition, the issue is to update this obsolete definition.

Senator NUNN. Well, if it is not updated, what is happening in the interim period while we are waiting? Are we seeing more leakage of this technology because we can't reach agreement, is that the bottom line?

Mr. ROOT. That is the bottom line. There is inadequate specification in this definition of very important aspects of computer equipment, technology, and software. There is, therefore, a large potential for leakage because of the inadequate definition.

Senator NUNN. How long has that leakage gone on from the point in time where you feel that we could have reached some compromise with Cocom?

Mr. ROOT. Frankly, we could have reached agreement as far back as 1979. We submitted proposals to improve the definition in 1978. In 1979 we were making progress toward reaching agreement. But, after the Soviet invasion of Afghanistan, the United States stiffened its position in 1980 to the point where it was perceived as politically motivated rather than strategically motivated. The 1980 negotiations fell apart for that reason. At that time there was a consensus in the U.S. Government that the old definition was preferable to any that might be negotiated. However, that view has changed, I think correctly so, since 1982. There is now, I believe, a firmly held consensus on the part of all agencies in the U.S. Government that this old definition is so far out of date that it must be revised to get more effective controls on various aspects of computer hardware and software.

Senator NUNN. So, can you accurately say that we have had more leakage than we would have if we had less rigid position and gone ahead and compromise?

Mr. ROOT. I would say since early 1980, more particularly since early 1982 when there was a firm consensus in the U.S. Government that we must change the definition. At the earlier——

Senator NUNN. Up until 1983, you are saying, there were some who viewed this situation as status quo. That no updating of the agreement was preferable to some kind of compromise? What you are saying, since 1983, there has been an almost unanimous view of the agencies that we are better off to go ahead and make some agreement because the status quo was unsatisfactory?

Mr. ROOT. Yes; the idea about status quo being satisfactory was explicit in 1980. It became explicit the other way in 1983. As for what the view was in the intervening years, I really can't say.

Senator NUNN. Go ahead.

Mr. ROOT. There is a broad consensus in the United States that multilateral controls are necessary. This is not only because the United States is generally not a unique supplier. It is also because, even when we are the only source country, we cannot effectively control reexports without the cooperation of the transiting country.

A possible exception to this consensus is the unwise disposition of some U.S. officials to seek incorporation of the militarily critical technologies list into the unilateral U.S. control list prior to reaching international agreement on the text of definitions of militarily critical technologies which should be controlled by our Allies as well as by the United States. But, at least in principle, there is no need to debate whether to control exports multilaterally. However, there is a need to debate how to achieve multilateral agreement.

The history of Cocom provides useful background for this debate. Cocom is the international coordinating committee in which the NATO nations and Japan agree on the strategic items which they will subject to export controls. Cocom's history teaches us two important lessons:

The first lesson is that careful and deliberate give and take negotiations result in strengthened Cocom controls on specific, well-defined items.

The second lesson is the mirror image of the first, namely, that U.S. pressure on our Allies to obtain support for U.S. opening positions has been ineffective.

The lessons are clearly illustrated by the last 6 years of Cocom list review negotiations for the control of computers. The computer item is probably the most important item on the list. We are now operating on the basis of a definition which emerged from proposals submitted in 1974. In the fast-moving technology of computers, 10-year-old concepts are clearly out of date. There is an urgent need to strengthen controls in such areas as signal processing, image enhancement, microprogrammability, fault tolerance, software, and computerized telephone circuit switching. For credibility, there is also a need to decontrol low performance computers which are so widely available throughout the world that it is impossible to prevent or even to slow down acquisition by Eastern countries.

In 1978 the United States proposed revisions along these lines. Other Cocom members were generally sympathetic but desired greater specificity and clarity in the strengthening areas and a somewhat broader decontrol of low-performance computers. The gap was being narrowed in 1979. But, in 1980, after the Soviet invasion of Afghanistan, the United States submitted proposals which were tighter than the U.S. proposals. It was not surprising that the U.S. 1980 proposals, which were based more on political than on strategic considerations, effectively broke off the negotiations in that area.

In the summer of 1982, the United States resubmitted proposals similar to its 1978 proposals. In the fall of 1982 and the spring of 1983 the gap was once again being narrowed. But, in the summer and fall of 1983 the Policy Office in Defense decided to adhere rigidly to the original U.S. proposals and even to tighten them in a few respects.

Senator NUNN. When you say similar proposals; are you talking about——

Mr. ROOT. I am talking about the ones submitted in early 1983 which were essentially those submitted in the fall of 1982.

This made it impossible to reach agreement at a meeting in October, even though we had insisted that final decisions be made at that meeting. Similarly, no conclusions were reached at a follow-up meeting in December. The next try is scheduled for May 1984. I hope agreement will be reached then. But, even if it is, the rigidity of the Defense position in 1983 will have cost a year's delay in putting into effect needed stronger controls on computer exports.

During this same time period, a more flexible U.S. negotiating posture has permitted reaching agreement in Cocom on substantial strengthening in such important areas as silicon, floating drydocks, space vehicles, and technology for the production of superalloys. Such flexibility is not synonymous with weakness.

Our Allies insist on rigorous review for maximum clarity so that administrators and exporters will have a better understanding of exactly what is controlled. Moreover, flexibility has not meant settling for the lowest common denominator. Our Allies have refrained from vetoing well-justified strengthening proposals which take into account their constructive suggestions even though we have, over the years, frequently vetoed their liberalization proposals. Indeed, the Allies insist that Cocom retain the rule of unanimity which permits such U.S. vetoes. This is because they want the United States to continue to discipline the system.

But the Allies will not follow us blindly. They recognize that we are the dominant member within the Western Alliance. They recognize that we are the strongest militarily. They recognize that we devote more technical and intelligence resources to the analysis of what should be controlled and why than they have available. They, therefore, listen carefully to what we have to say. But our proposals are not perfect. We should be grateful that they are not reticent about telling us so. Their criticism is constructive.

The conventional widom that they are motivated by commercial considerations whereas we are motivated by security considerations is true. But this is only part of the truth. The flip side is also true. They are also motivated by security considerations and we are also motivated by commercial considerations. Their security motivation is evident from their willing partnership in Cocom for 35 years—a quite remarkable record when one considers the numerous strains which have been placed on that partnership.

Cooperation is a function of mutual respect. We engender resistance rather than cooperation when we simply seek to persuade the Allies of the righteousness of our opening positions in a negotiation. It is small wonder that the Cocom computer negotiations begun 6 years ago are still dragging on inconclusively.

My recommendation for congressional action to strengthen Cocom differs markedly from the proposals in pending legislation. There is no need for a Cocom treaty nor for adding professional staff, giving Cocom fancier quarters, or otherwise throwing money at it. A Cocom treaty would risk a weakening of the organization through conditions which the parliaments in some member countries would probably consider. The existing international staff and the existing quarters for the secretariat and for meetings are adequate to provide the needed logistical support for Cocom's purpose. Cocom's purpose is the reconciliation of differing national views on what should be controlled. Cocom has no need for a larger international budget.

My recommendation for strengthening Cocom addresses the national aspects. It does not aim at the international organization, international staffing, or international finances. Instead, we should consider how to improve U.S. participation in Cocom. In particular, we must do something about the arrogant U.S. attitude which has been at the core of our ineffectiveness in Cocom computer negotiations.

Senator NUNN. May I ask you a question there, Mr. Root. As much as we would like to avoid getting into personalities, just looking at everything that has happened in the last 2 or 3 years in our investigation, I think we are going to come down to a question of at least departments and their view and so forth. If we don't get some of these disputes out on the table and see which ones have been resolved and which ones are outstanding, we are never going to get a cooperative U.S. Government attitude in this area.

When you say "arrogant U.S. attitude," what do you mean by that and what agencies are you pointing the finger at, or individuals? What offices are you pointing the finger at?

Mr. ROOT. I am not pointing the finger at individuals. When I say arrogant U.S. attitude, I am referring to the U.S. Government itself being perceived as arrogant. I believe that section 10(g) of the Export Administration Act is responsible for this attitude, this perception of an attitude. The people in the Defense——

Senator NUNN. Tell us about 10(g) now. Exactly what does that say?

Mr. ROOT. Under section 10(g) the President must report to the Congress if he overides a Defense objection to an export. The President has never sent such a report to the Congress, and is unlikely to do so in the future. This would indicate that the Commander in Chief was not master in his own house. There have been several instances when Defense views have prevailed even when it was generally believed that the President held different views. Defense officials feel strongly that exports which in their judgment would undermine our security should be stopped. They should be encouraged to take a strong position in such cases, that is their job. But this is not to say that it is necessarily in the overall U.S. national security interest that such Defense views prevail.

At present, because of section 10(g), Defense views appear to prevail over even those of the President. This, naturally, leads Defense officials to pay little heed to differing views from other agencies or from other Allied Governments. The irony of this situation is that the resultant prevalence of Defense views on the details of cases and on the details of proposed item definitions for the control list has made it impossible to further the broader Defense objective of strengthening the basic controls. This is doubly ironic, because the basic objective of strengthening controls is shared by other agencies, the President, and the other members of Cocom.

Of course, the Defense view as to what is militarily critical is more important than the view of any other agency. But the section 10(g) formalization of the predominant role of Defense is self-defeating.

To conclude my presentation, Mr. Chairman, the effectiveness of Cocom depends upon working with our Allies in a give and take cooperation. In my view, the most significant step the Congress could take to encourage such cooperation would be the repeal of section 10(g). Thank you.

Senator NUNN. What would you have take 10(g)'s place? How would you have it work?

Mr. ROOT. In my view, the Defense Department would continue to be a principal advisor to the State Department on the international aspects of security controls and to Commerce for the national aspects. This is essential. Defense is the only agency that has adequate staff resources to provide advice on what is militarily critical.

The disadvantage of 10(g) is the impediment which it presents to the evolution of a coordinated U.S. Government position which takes into account other relevant factors needed to reach agreement on the strengthening of the controls, such as in the computer area which I described.

Senator NUNN. Are you saying that Defense considerations and commercial considerations should be on par, should be on equal ground?

Mr. ROOT. No, I am not, Mr. Chairman. I think commercial considerations must be sacrificed when there is a clearly strategic significance to a proposed export. This is not really an issue. I think the U.S. exporters recognize that even though it is their interest which must be sacrificed.

Nevertheless, we must take into account the need for precise definition which all the allies can agree upon to strengthen the controls rather than year after year insisting on something which has proven to be not negotiable.

Senator NUNN. You are saying under the present law, then, the Defense has what amounts to a veto over all the other agencies?

Mr. ROOT. That word has been used to describe in one word the section 10(g) provision. Defense does not literally have a veto, because the President can override; but, if the President overrides, he would have to report to Congress, which he is apparently reluctant to do.

Senator NUNN. You are saying if the President did override in the current law he would have to report to the Congress that he was overriding the Defense and he would have to give his reasons?

Mr. ROOT. That is correct.

Senator NUNN. What prevents Defense from—I suppose Defense is looking at it from a security point of view. But Defense, it seems, would have enough broad-based view to realize we have to come to grips, terms, with our allies. If we do not, we, as you have described in the case of computers, will end up with nothing being changed over a 5- or 6-year period, whenever one recognizers the current controls permit more leakage than otherwise would occur.

Why does Defense have this tendency to be unreasonable in these areas? Is this because they are not brought into contact at any point with our allies? Are they isolated and do they present an isolated view? Is that it?

Mr. ROOT. No; that is not it. Defense participates actively in negotiations with our allies. They do recognize the need to reach agreement with our allies. But the Defense people who are responsible for coordinating views within Defense are in a very difficult situation. They realize, as do the other agencies for that matter, that some of the relaxation in the computer item is in areas that definitely meet the Cocom strategic criteria. These low performance computers do have military significance and the Soviets are having trouble producing them.

Nevertheless, for credibility, there must be decontrol in this area because there is nothing we can do about it. Such computers are available in scores of countries in thousands of outlets. There is no way we can stop the flow of computers that are available in such profusion from so many places. But, the responsible Defense officials, naturally, are very reluctant to relax in this area. What it takes is a broader U.S. national interest being brought effectively into play in the process of developing a U.S. position and, of course, that broader U.S. interest would have as the bottom line the strengthening of the controls.

Senator NUNN. Under your view, all agencies would have an equal imput; correct?

Mr. ROOT. Yes, sir.

Senator NUNN. Who would make the decision at that stage?

Mr. ROOT. The responsible agency for the U.S. position in Cocom is the State Department. The responsible agency for U.S. national controls is the Commerce Department. In no case should either State or Commerce proceed without paying due heed to the Defense Department. Indeed, it would be extremely rare to proceed without explicit Defense concurrence. Where Defense differs on a major issue, the matter should be referred to the President. Often these issues are referred to higher level for resolution. But, there is inhibition at the higher levels to step in because of section 10(g).

Senator NUNN. Do you have the view that in the Defense Department the matters relating to technology transfer are being judged on a technical basis, an analytical basis or do you think it is more of a philosophical basis?

Mr. ROOT. Well, there is a little of each. The responsible office in Defense over the past 5 or 10 years has changed. It was in the International Security Affairs Office. Then it moved to Research and Engineering. Now it is in International Policy. It appears, and here I am speaking second hand since I do not participate in internal Defense matters and did not even when I was active in State, but it appears that there has been a continuing debate within Defense as to which office should have the dominant role. Should it be the Policy Office or the Technical Office? There is a need to take into account both points of view. It appears that the Policy

Office is now dominant with the Technical Office being an advisor to the Policy Office.

Senator NUNN. Mr. Root, you documented pretty much your own frustrations. Have these frustrations been going on for a long time? What precipitated your decision to basically terminate your efforts?

Mr. ROOT. They had been going on for a long time. I felt, however, that I was in a position to contribute in my small way toward resolving the matter up until September 1983. As I testified earlier, the frustrations in 1980 seemed a tolerable price because a consensus was reached with Defense and the other agencies that the existing definition was not only tolerable but preferable to what might be negotiated. In 1983 this was no longer the case. State, under presently applicable legislation, has a statutory responsibility to conduct these negotiations. That had been delegated to my office for the types of issues where working level resolution is possible. I felt that I could not carry out that responsibility given the rigid Defense position.

And since in 1983 there was a clear consensus that we must strengthen the controls, the frustration reached the point where I did not see how I could constructively play a further role.

Senator NUNN. Senator Rudman.

Senator RUDMAN. Thank you, Senator Nunn.

I just have a few questions, Mr. Root. Back in 1982, this subcommittee held sensitive hearings on the entire question of technology transfer and, if you will, the words often used, the hemorrhaging of our technology during the period early to mid 1970's.

Would you agree that in effect a hemorrhaging has taken place during that period?

Mr. ROOT. There has been hemorrhage of technology not only during that period but during the entire life of Cocom for the past 35 years. The embargo is not airtight, it probably never can be. One of the most important elements of the embargo deals with technology or knowledge and in our open society we could not even conceive of an airtight embargo or airtight control on transfer of information. Nevertheless, there has been a reasonably effective control, especially on commodities, over those commodities which are defined in the international list and for which applications have been submitted to the governments for approval.

I believe that the Intelligence Agency in the United States, probably in other governments as well, has concluded that the leakage has not been significant within the system. That is, when a responsible firm asks for a license, the license is not granted capriciously. The leakage takes place in two other ways. One is when the item itself is inadequately defined on the control list, as I have testified concerning computers. The second way is when an irresponsible exporter seeks to evade the control, circumvent the control. And there has been circumvention partly as the result of the concerted effort of the Soviet Union to obtain controlled items.

For example, in the 1970's there was several hundred million dollars, worth of semiconductor manufacturing equipment which the Soviet Union obtained in circumvention of the controls, from the United States as well as Allied countries. This hemorrhaging was very serious. This was by any manner of measurement the most important hemorrhaging.

Even here, however, the Soviets, despite having obtained through illegal means equipment to put into operation several complete production lines, are still experiencing severe difficulties. This is probably because the technical data which must accompany the equipment in order to make it operate effectively was generally missing. If you buy something under the table, you don't get the technical assistant to come in and show you how to put it together. So the hemorrhaging, while very serious, has not been a knockout.

Senator **Rudman**. As a matter of fact, in recent months there has been great concern about the effectiveness of the licensing procedures of some of our Allies and neighbors. There have been cases of Canadian transactions that, in fact, were allowing under the normal procedures very very sophisticated equipment to be exported to the wrong places. Is that not correct?

Mr. **Root**. I read about this but I have no personal knowledge of recent months because I resigned last September.

Senator **Rudman**. I want to establish one point. How long were you in Federal service, Mr. Root?

Mr. **Root**. About 39 years.

Senator **Rudman**. You say you resigned; you actually retired, did you not?

Mr. **Root**. I retired and I have been on annuity, that is correct; but I had not intended to retire when I did, and in that sense, I resigned as a protest over the issue I have described.

Senator **Rudman**. After 39 years in the State Department?

Mr. **Root**. No, in the State Department since 1950. And I had 3 years in the Navy and 2 in the Bureau of the Budget.

Senator **Rudman**. Thirty-three years in the State Department?

Mr. **Root**. Thirty-three in the State Department.

Senator **Rudman**. I want to just follow a line of questioning for a moment. I will tell you where I am going. I am trying to really get down to the question as to whether or not the problems we are having are institutional or parochial to this administration.

You worked as head of the Office of East-West Trade for a number of years through a number of administrations, I believe over a period of three administrations; is that correct?

Mr. **Root**. At least, yes.

Senator **Rudman**. And during those three administrations subsequent to 1974, were you ever to negotiate a definition of computers past the 1974 definition?

Mr. **Root**. No, sir.

Senator **Rudman**. Let me follow that for one moment. So, essentially, that would have been the Ford administration, the Carter administration, and now the Reagan administration. In each of those administrations there have been ongoing efforts to do what is the reasonable thing to do, to update this 1974 definition. So, you were trying to update a 1974 definition through three administrations while you were the head of this agency. I don't say this critically, I say it historically. And you have been unable to get a new definition in three administrations; is that correct?

Mr. **Root**. Basically correct, although I think during the Ford administration we had not yet submitted a proposal to revise it. This revision takes place every 3 or 4 years and the first proposal to update this was in 1978, which was during the Carter administration.

Senator RUDMAN. Well, is it fair for me to draw from that that the problem here is institutional and not parochial to this administration?

Mr. ROOT. I believe it is institutional. Some of the factors have been particularly pronounced in the past year, but I think you are essentially correct.

Senator RUDMAN. Whether they were pronounced or not pronounced, the fact is you couldn't get from A to B before 1975, 1976, 1977, 1978, 1979, 1980, 1981, and 1982, so they were pronounced enough prior to this administration. I am not supporting this administration's policy. This is a bipartisan committee, and we try to approach these things in a bipartisan way. I am trying to understand whether we have had some terrible problems since January 1981, or whether we have had these problems for the last 6 years. And you are saying that they vary, but that we have had the problems?

Mr. ROOT. We have had the problem for the last 6 years. I agree with you completely, this is not unique to one administration or another and my recommendation, of course, is an institutional recommendation in section 10(g), it is not aimed—it is not partisan in any way.

Senator RUDMAN. It is possible—I say this very seriously—is it possible that your resignation retirement in protest last fall was the result of cumulative buildup of frustration as opposed to any particular item of frustration?

Mr. ROOT. It is very difficult for me to separate in my mind what was cumulative and what was particular. It is clear that there were particular events which precipitated it.

Senator RUDMAN. The straw that broke the camel's back?

Mr. ROOT. That is a good analogy.

Senator RUDMAN. I have just one other question I want to ask. The reason I asked that last question, in reading these press reports, it was my impression that you finally threw up your hands after some real, present conflict with DOD. From your testimony this morning, I would say you certainly precipitated, but it appears as though you had your share of problems with them over the last 6 or 7 years.

Mr. ROOT. That is true. I would like to point out that several of the press reports including in particular that of the New York Times was definitely inaccurate in that they reported that I protested the strengthening of the controls, preferring liberalization. That was not it at all.

Senator RUDMAN. We often find press reports inaccurate.

One last question.

On page 10 of your remarks, starting in the middle, you state: "I urge the repeal of section 10(g)." And then continuing on to your description of the Senate bill and then on to page 11, the first or second paragraph. In taking that in total, I take the idea that you endorse a provision of the House version of the Export Administration Act which would permit export to Cocom countries without the necessity of an export license.

Do you support that provision of the House version of the bill?

Mr. ROOT. Yes, I do.

Senator RUDMAN. I assumed you did from reading that section. Your testimony is very important to us, because, after all, you have been there for the last several years.

Let me ask you this one very simple question.

Does it trouble you at all that no paper trail would exist for subsequent investigation of transshipment or diversion from countries? Are we going to rely on foreign governments to ensure that the goods aren't rerouted? CAT [sic] for instance, has brought three cases under its permit access. Don't you think that by taking that position there is a risk in not having that kind of good solid paper trail here and that we could be losing control over the illegal export of certain technologies?

Mr. ROOT. That is a concern which must be met.

Senator RUDMAN. How would you propose to meet it?

Mr. ROOT. As I testified before the Foreign Relations Subcommittee a few months ago, my proposal to meet that is to require the same paper trail we now have, in other words, to insist that the Government be provided by the exporters prior to export with the same type of documents now used to support the license application. In particular, the ultimate end-user signs a statement providing an assurance that he would not reexport to a proscribed destination without the proper authorization. That is the basic document which is needed for a paper trail in order to proceed to investigate and if appropriate, to prosecute for a diversion. The license issuance is not evidence that the end user is committed not to divert. It is his own signed end-user statement which is the important paper trail. The condition sine qua non for discontinuing the so-called West-West license procedures, to other Cocom countries, would be that this vital paper trail on critical items be retained.

Senator RUDMAN. I just want to quote to you something which I am sure you are very familiar with. This is a report from the Senate Banking Committee on their work in this area. I quote one sentence: "Our Intelligence Committee reports that most of the diverted U.S. exports find their way to the Soviet bloc by friendly countries." That is quite separate from what Cocom is really about, and from what we are really talking about here today. But that statement, it seems to me, really makes very critical the evaluation of the House provision, even with your answer that it would work.

Mr. ROOT. If I thought that processing license applications by the tens of thousands for other Western destinations was contributing to increased intelligence for the problem you described, which is a serious problem, I would not support the House version. However, processing license applications does not improve enforcement. What we need to do is review the end-user assurances, review the bona fides of the end users themselves. That is not a function of processing license applications. That is the process of reviewing the important paper trail which is the document signed by the end user. And if that was provided in advance of export, as I have recommended, all that data would be available and there would be more time to look at it because you wouldn't be spending time processing license applications.

Senator RUDMAN. I want to refer to page 11 of your statement. You say on page 11, and I want to keep your present answer in mind:

> U.S. efforts to work with our Allies would be strengthened by using diplomatic channels for overseas investigations. Both Customs and Commerce have been seeking enhanced roles for themselves in the investigation overseas of alleged export control violations. Most governments in other Cocom member countries are extremely sensitive about such U.S. extraterritorial investigations.

Assuming I take that at face value and accept your answer, which is a very good answer to my previous question, would you not then think that at the very least we have to continue to enhance and to increase both Customs and Commerce activities overseas on the basis that we can't necessarily—maybe trust isn't the right word but—rely on the Western countries who might do this for us?

Mr. ROOT. We must work with Western countries.

Senator RUDMAN. I agree with that.

Mr. ROOT. We cannot rely on them—they can't rely on us. It must be a cooperative effort. I am not advocating either Customs or Commerce having enhanced roles, that is not part of my background, I don't have direct experience.

Senator RUDMAN. But you are not opposing——

Mr. ROOT. I am not opposing or proposing. What I am stressing here is something I know a little bit about which is the importance of strengthening diplomatic channels which we have to use because the other governments insist upon it and I don't want to lose sight of that over the debate on the other.

Senator RUDMAN. As long as that is not a mutally exclusive affirmation of paragraph 1, page 11, your statement could be taken as some evidence from someone who is obviously an expert, probably one of the great experts in our Government on this subject, that maybe that is not such a good idea. I want to thank you very much for your candid answers.

I frankly don't know what the solution is here. I have met with a number of industry people who complain bitterly about the obstruction of legitimate trade—the loss of business because of legitimate trade they wish to engage in—because the product is so cumbersome. On the other hand, I talk with some of the intelligence people who tell me horror stories some of which are so cleared that we can't talk about them here, but of which I'm sure you are aware. I say we need to hear a great deal more.

And I commend Senator Nunn for putting together these excellent hearings, because I think they are going to give us a lot of information that hopefully will lead us to the right postition.

I thank you for your answers.

Senator NUNN. Interestingly enough, Senator Rudman, we very much hope we will hear from the industry groups because they are quoted frequently. We hear a lot of complaints from industry and when we approach the hearing we find more reluctance from industry to testify. A strange effect. Everybody likes to complain behind the scene but not many people want to be heard on this subject. It is a bit puzzling. I am hoping we are going to hear from the industry. If we don't, I might say we will issue a couple of subpoenaes. Fair warning to those outspoken sources who don't want to be seen. I think we have to have some public hearing on this.

Senator RUDMAN. I think that those will be the rare kind of subpoenas issued here, nobody probably will take the fifth amendment.

Senator NUNN. I don't think they are fifth amendment witnesses, I don't want to imply that. There is reluctance to be heard and be named for one of those criticizing certain aspects of governmental process in this area.

Mr. Root, you have been of tremendous help here. I have a few more questions I want to ask you regarding some of the more technical details.

In 1981 and 1982, what is known as the TTG, stands for technical task group, is that right?

Mr. ROOT. That is correct.

Senator NUNN. Is that a multilateral agency task force?

Mr. ROOT. It is.

Senator NUNN. Composed of State, Defense, Commerce, who else?

Mr. ROOT. Being technical State, not having technical people, State participates in a somewhat minor way. Commerce, and Defense, and Energy in this case are the principal participants in technical task groups because that is where the technical expertise lies. The chairmanship would either be a Defense or Commerce man or someone designated by them, depending on who is available and who has the best knowledge for the particular subject matter.

Senator NUNN. My understanding is that during 1981 and 1982 the so-called TTG for the computer issue met frequently to develop an initial technical position to be taken at the first Cocom session in October 1982. Could you tell us about that, the role played by the TTG and how that evolved in this particular issue?

Mr. ROOT. Yes, sir; Dr. Lara Baker, who is one of the witnesses for today's hearings, chaired the technical task group during this period and it was a very difficult task in large part because there was a reluctance on the part of the Defense Department participant to come up with a definitive position as to what should be included in the technical task group recommendations to the interagency committees which had the final responsibility for determining what should be in the U.S. proposal.

The technical task group, nevertheless, put together a very useful and detailed document. It was not accepted by Defense. The chairmanship was changed. A new approach was then taken by a second technical task group.

Senator NUNN. Defense had not participated in the first?

Mr. ROOT. Oh, yes, Defense was a major participant.

Senator NUNN. But they dissented; is that right?

Mr. ROOT. At least they did not accept the recommendation of the first group. The second group came up with something that wasn't all that different, really. So I am a little unclear as to why they did not accept the recommendations of the first one, but we did lose some time and there was confusion as a result of it.

Senator NUNN. Was the 1982 computer position of the Government a unified interagency proposal?

Mr. Root. No, sir, it was not. The Department of Commerce did not concur with the U.S. position as it was submitted. The State Department opted to accept the Defense position rather than the Commerce position, the Defense position being more conservative. This was on the theory we had to get something in before the deadline and, of course, it is always easier to concede after you have submitted something that is restrictive than it is to add an additional restriction after the proposal has been submitted.

Senator Nunn. Did the U.S. position ever evolve into a unified position during the Cocom deliberations?

Mr. Root. No, sir, that is, up until September. My negative answer was based upon the period when I had firsthand knowledge. I do not know what might have happened after September 1983.

Senator Nunn. Did the State Department obtain some kind of response from the Defense? Did you have a direct statement from them saying they didn't agree?

Mr. Root. Well, it was the Defense position that was tabled.

Senator Nunn. Commerce is the one that got overruled?

Mr. Root. We overruled Commerce.

Senator Nunn. Did they have something in writing saying they disagreed?

Mr. Root. I don't recall whether it was in writing. It was very clear from the oral remarks in interagency meetings and I suspect it is in writing somewhere.

Senator Nunn. Do Cocom working groups come up with recommendations? Did they in this case?

Mr. Root. The Cocom working group was quite separate and apart from interagency consideration of the U.S. position.

Senator Nunn. Right.

Mr. Root. Cocom established a working group in 1982. The working group met twice in 1983 to resolve nonsubstantive points of structure of the item definition. The working group was not authorized to resolve substantive issues or, for that matter, to commit government.

Senator Nunn. Well, what did the Cocom group come up with? Did you come up with a final recommendation?

Mr. Root. The Cocom working group met at great length in the spring and early summer of 1983 and came up with a composite draft designed to bridge the substantial differences between the U.S. proposal, which incorporated a radical departure from the existing structure of the item, and the views of all the other delegations that Cocom should consider the item on the basis of specific changes in the existing structure. It was obvious that the committee could not handle the resolution of issues until we had a single composite draft of the different views of the member governments.

This was a task of the working group. I think it was accomplished with a fair degree of faithfulness to the views of the respective members.

Senator Nunn. During that process, was there any kind of deadline submitted by the Cocom members to the respective members of the group submitting the changes or deletions or suggestions?

Mr. Root. Yes, sir, we had hoped that final decisions on the entire item would be made in June 1983. When this became impossible for—because we simply had not made enough progress in putting together this composite draft, there was agreement in the committee when it reviewed the working group's efforts in early July, that final decisions would be made in October 1983. In particular, since the working group could not commit governments and it was not known whether this composite draft faithfully reflected the considered views of governments, each member was requested by the committee to submit by September 15 its explicit position based upon the composite draft. If the draft fully reflected its position, fine. Otherwise member governments were to submit changes so that its position would be known in terms of the composite draft structure. It was expected there would be some changes in such a complex matter. This was not done by the United States, because the Defense Department did not respond to repeated requests from State for a position on the composite draft during the summer of 1983.

Senator NUNN. Did Defense come in late with their comments? What happened finally?

Mr. ROOT. The did not come up with any position prior to my resignation, which was after the deadline of September 15. Therefore, it was apparent by the time I resigned that, because of a lack of a U.S. position on the composite draft that was to provide the basis for Cocom consideration of the issue, no final decision could possibly be reached in October. Indeed, that was what happened in October, no final decisions were reached.

Senator NUNN. Did Defense give State an explanation as to why they didn't come up with comments and suggestions?

Mr. ROOT. Not to me personally. There could have been something in other channels but I think I would have heard of it.

Senator NUNN. In attachement 3 of your prepared statement, your chronology of events relating to recommendations, indicates the Department of State tried to convene an interagency meeting in July or August and September of 1983 to work on the computer issue. However, according to your chronology, the Defense Department was "not prepared to attend."

In your view, what was the significance of the Defense Department being not prepared to attend?

Mr. ROOT. The immediate significance of the Defense Department being not prepared to attend was that the United States could not prepare a revised position by the September 15 deadline, which was a necessary prerequisite for the October 17 meeting to make final decisions, as we had previously urged.

The meaning of "not prepared to attend" was simply that State issued invitations and Defense declined to come, explaining they were not yet ready. The broader significance of Defense being not prepared to attend was to add to international perceptions that the United States was not going to budge and that the only way to reach agreement would be for others to abandon their different views, no matter how well justified they might be.

It is possible that in the intervening months the U.S. position has become more cooperative and, therefore, more viable in Cocom. I would be delighted if that should prove to be the case. However, even now there is no multilaterial agreement to revise the computer item. So the lack of progress last summer has, at a minimum, delayed the strengthening of controls.

Senator NUNN. Mr. Root, do you have any other comments you think we ought to consider? Any particular observations in addition to the ones you have made this morning so far?

Mr. ROOT. None that I wish to volunteer. I would be happy to answer any questions you might have.

Senator RUDMAN. I wish I could think of the questions that Mr. Root would like to answer, but I can't think of any more.

Senator NUNN. You are saying this is an institutional problem and you are saying it is not a parochial problem; is that right?

Mr. ROOT. That is correct.

Senator NUNN. And you basically are saying the way Congress ought to address it to try to resolve the institutional roadblocks that you have outlined?

Mr. ROOT. That is my recommendation.

Senator NUNN. Senator Bingaman.

Senator BINGAMAN. Thank you, Mr. Chairman.

Let me just ask, and I hope I am not repeating an earlier question. When I was here at the early part of your testimony you indicated the Policy Office of Defense has, in your view, put a very restrictive set of controls into place regarding low performance computers. There is an article in the Defense Week publication that came out today that caught my eye called "An Apple a Day Keeps the Russians Away." It talks about the concerns which Steve Brian, Deputy Assistant Secretary for Trade and Security Policy, has about the possibility that Apple computers may be made available to the Russians and efforts to restrict their use.

Could you specify or elaborate a little bit on what is it that the Policy Office of Defense is trying to restrict the distribution of, when you talk about low-performance computers?

Mr. ROOT. The existing definition imposes a control over virtually all computers, including low performance. One element in the proposed revision, which is common to both U.S. and Allied proposals, would be a relaxation on the comprehensive control of all computers. The reason for this is, as I referred to earlier in my testimony, the virtual impossibility of controlling all computers, because of the extremely wide availability of low performance ones.

Now, I am not an expert on Apple computers. I believe some of them might be in this low performance range, perhaps others not. There are probably several different models, but Apple is generally considered to be a low performance computer, so I suspect that is a good example.

The Defense Department has proposed that the decontrol of low performance go only to a relatively low level, whereas others feel it should go up to a somewhat higher level.

What is happening in the real world in the view of many is that the assertion of a control at this level of technology is somewhat an empty gesture because of the impossibility of control. The Soviets can walk into a retail outlet in a score of countries that are not cooperative with us and there is no particular prospect that they could not, at least at that level, buy whatever they wanted in this technology.

It is not an easy question to resolve and I have great sympathy for the dilemma in which Defense finds itself, because even low performance computers have military significance. It is sort of like prohibition, something you might want to control but there is no apparent way it could be controlled at the low level.

Senator **Bingaman**. You are saying that you are not clear as to whether something like Apple or Peanut or PC Jr. computers, which can be bought at any number of outlets—and I understand these model computers are thought to be in production in the Far East in counterfeit versions, although I am not certain that is the case—it is your opinion that the Defense Department is trying to control the distribution of those computers?

Mr. **Root**. I cannot testify as to the technical capability of any particular model number. This is precisely the type of question on which State Department, in general, myself in particular, would rely on advice from others. I have heard reference to so-called Peaches substituting for Apples being produced in basements in Hong Kong and elsewhere, perhaps Taipai, but that is hearsay and not particularly useful information for the subcommittee because I cannot testify authoritatively on the technical performance of any model number.

Senator **Bingaman**. Thank you. That is all I have, Mr. Chairman.

Senator **Nunn**. Mr. Root, we appreciate your being here. We appreciate your cooperation and as we continue these hearings we would certainly like to be able to call on you for further advice.

Mr. **Root**. I would be delighted. Thank you.

Senator **Nunn**. Our next witness is Dr. DeLauer, but we have agreed to reschedule him for 11:30. We have Dr. Alfred Brenner, director of the Computing Department of the Fermi National Accelerator Laboratory, Chicago, IL, testifying this morning and I know you have a prepared statement, Dr. Brenner.

Dr. Brenner, if you would come forward. If you don't mind, what we will do is have you give your prepared statement and then when Dr. DeLauer comes in, we will interrupt you and come back with you and Dr. Baker together, if that is satisfactory.

Let me swear you in.

Do you swear the testimony you are about to give, will be the truth, the whole truth, and nothing but the truth, so help you God?

Dr. **Brenner**. I do.

Senator **Nunn**. Dr. Brenner, we appreciate your being here and we look forward to hearing from you. If you would proceed with your statement, we would appreciate it.

TESTIMONY OF DR. ALFRED BRENNER, DIRECTOR, COMPUTING DEPARTMENT, FERMI NATIONAL ACCELERATOR LABORATORY, CHICAGO, IL

Dr. **Brenner**. I thank you, Mr. Chairman, for the opportunity to appear before this subcommittee.

I would like to comment on the Cocom list review process, the U.S. Government Interagency Technical Task Group [TTG], procedures prior to the list review and on some related matters. The comments that I make are based upon long term but low activity level involvement in the process.

I am a senior scientist at the Fermi National Accelerator Laboratory which does basic research in elementary particle physics. In addition to my research activities in physics, as head of the computing department at the laboratory, I have had responsibility for the rather complex and large computing facilities at Fermilab since 1970. Since 1971, I have served as a technical consultant on export control matters relating to computers for the Department of Energy and its predecessor agencies. In that role, I have provided technical support for the Cocom list review process; technical evaluation of export license applications and other matters related to the export of computers; and I have been a member of the Commerce Department's Technical Advisory Committees for Computers. My involvement is solely with respect to technical matters. The comments I make today are my own personal observations as a technically competent individual and do not necessarily reflect the position of the Department of Energy.

Controls on the export of computers, like with the other high technology items, is particularly difficult. In addition to the important considerations of national security, political and commercial factors, there are a number of complex technical issues to be considered. With computers these issues are particularly complex because of the diversity of components, the size variation and complexity of the systems, and the wide diversity of uses to which computers are properly put.

In formulating a draft proposal for the Cocom list review for item 1565—electronic computers and related equipment, the TTG deliberations are complicated by a number of factors. First, the participating technical experts range widely in their expertise. Second, during the TTG process it appears very difficult to obtain external higher authority guidance from many of the departments involved in the process even though progress was made by the technical experts. Thus, invariably, once the issues have been adequately delineated, there comes a point in which technical value judgments must be made to accomplish the desired level of control. At the same time, such judgments must give rise to a viable, workable set of rules and regulations which adequately balances all the competing goals of the various U.S. agencies and are eventually acceptable to the other members of Cocom. In my experience, watching this with some involvement, it has always been a very complex, difficult and frustrating exercise.

In the last few years due to the explosion of technical innovation in the development of microprocessors, those small computers on a chip of silicon no larger than your fingernail, the situation has become much more complex. This gives rise to some of the more difficult of the current problems. There are other difficulties, however, also complicating the issue. One is the wide range of software that is required to make computers perform useful functions. Software is widely produced, frequently by very small firms, is easily distributed and widely available. Most importantly, much software has bona fide dual use functionality, appropriate for the business and/or the scientific world and also the military.

Another problem is the modern procedure to use computers remotely using communications lines and the networking together of a number of computers. None of these items are adequately addressed in the current Cocom 1565 regulations. To properly control the export of technology and commodities, all of these items should be addressed. It is particularly these items which have given rise to the current difficulties in obtaining interagency agreement, as well as agreement within Cocom. The most serious issue at this time is the microprocessor question, or what is now referred to as the compact computer question.

With respect to the microprocessor question there is a legitimate national security concern as to how widely such items are proliferated. However, if in the control of such items, one does not take cognizance of the wide distribution of these items throughout our society in everyday civilian commodities and chooses to tightly control all such items, then one is fooling oneself as to the efficacy of such controls. Furthermore, to my mind, it is ludicrous to subject a traveler to customs searches as he leaves the country to prevent him from carrying abroad a child's microcomputer based toy such as Speak and Spell. Additionally, with the wide proliferation of powerful home and personal computers, it is not feasible to control the carrying abroad of most levels of microprocessors without encroaching unduly into the lives of every American citizen.

Given that this technology moves so rapidly and given the inventiveness and leadership of American industry in this arena, one can always count upon new devices appearing in the marketplace which are appreciably more powerful then those devices embedded in mass-produced games or personal computers. If one controls only those items at the very leading edge, and gives up the goal of letting no microprocessors slip through, I believe the Government will have a viable procedure by which such items are controlled. Furthermore, with such an approach, I believe concurrence among all agencies may be gained rapidly, and that there should be no difficulty in coming to reasonable compromises with our Cocom partners.

However, in order to accomplish this, one must give up the goal of containing absolutely every commodity the export of which might be detrimental to our national security. Unfortunately, in pursuit of this impossible goal, those who want the controls most dearly have made it impossible to come about by their intransigence.

Senator NUNN. Dr. Brenner, at that point, who are you pointing the finger at, any agency or institution in this respect, or individuals?

Dr. BRENNER. Well, it is the Department of Defense's proper role to oversee national security. Their proper position should be to identify all those areas where they have concern with respect to the national security. They do that. The process has to be balanced, however. There are other concerns. And there is, finally, the understanding as to what level you can actually sensibly impose control. It appears to me sometimes good value judgments are not made on that particular issue.

Senator NUNN. By which institution?

Dr. **Brenner**. The Department of Defense, in particular, who would like to control as much as possible.

Senator **Nunn**. You are saying the Department of Defense by trying to control so much is really not making it possible to control anything well?

Dr. **Brenner**. I believe if you impose a policy which you cannot properly enforce, resulting in leakage all over the place, you have an unbelievable position. Consequently, along with minor leakages, larger items will also leak out. I believe if you focus on the important issues, the important items, the important technologies, and put all your efforts into controlling those items which are truly important and often controllable, you will do a much more effective job.

Senator **Nunn**. I agree with that philosophy and as I said in hearings 2 years ago, the problem is who is going to make the judgment as to what is important.

Dr. **Brenner**. Well, it is clear that an interagency group must do that. I believe the process should work whereby the general policy guidelines are set at high levels. The technical details are then brought to bear on the problem at the lower working levels. The process trys to work this way, as I perceive it. The technical groups do work very hard, as we pointed out earlier, and do come close to a final value judgment as to where the cuts ought to be made. It is at that point in the process that the system breaks down.

At that point, a sensible way of proceeding, I believe, would be to bring the results of the technical studies to higher level policy people for them to finally make decisions as to where the cuts should be made.

That process doesn't seem to work well.

Senator **Nunn**. What in fact happens? It seems logical you propose to bring up the technical people when you get to the value judgment stage. Bring them up to consult with the high-level people who are going to make the decision. That seems to be commonsense. What does in fact happen?

Dr. **Brenner**. For one thing, frequently the technical people have widely varying abilities and frequently the people participating in the meetings, I believe, are not broadly enough based to carry back the essence of the technical decisions, to their more senior policymakers. Furthermore, the policy people tend not to appear at such meetings. In the past at various times, very senior technical people have attended the technical meetings and have listened directly to the technical discussions so that they could carry back to high levels the essence of the usually complex discussions. This has happened in the past. It hasn't happened in recent years, not in the last 2 or 3 years.

Senator **Nunn**. Why not? Whose fault is it?

Dr. **Brenner**. Clearly the people who have the responsibility to make those decisions. I think if I were in their position I would do that. I think the people who have the responsibility to make the final policy decisions, are at fault if they have not properly found a mechanism whereby they can be educated in this very technical complicated area.

Senator **Nunn**. Are you saying philosophical decisions are in the final ruling in this area rather then theoretical judgment?

Dr. **Brenner**. It seems to me Government policy should be made at high levels and one has no problems with that. However, at some point when you want to implement certain policy, you must check to see whether it will sink or float. I believe possibly blinded by the demands of policy, there is a failure, to understand what will sink and what will float.

Senator **Rudman**. I have one question.

Senator **Nunn**. Go ahead.

Senator **Rudman**. If I understand what you are saying, and I think I do, people who make these policy/value judgments, they in many cases don't possess the kind of technical knowledge and expertise to make them in a forthright way. You are saying that?

Dr. **Brenner**. That is correct.

Senator **Nunn**. Are you also saying that because of that feeling that what they tend to do, if we can have an analogy, they can make a fine screen and the screen is so fine very little passes through it and they place it over one area of transit rather than taking a screen more reasonably constructed and putting it over the whole area?

Dr. **Brenner**. A better analogy may be if you want to catch salmon going up the river to spawn, if you put a screen over the whole river you might get fish that year but next year you will get no fish at all.

Senator **Rudman**. I understand that kind of language. Thank you.

Dr. **Brenner**. In fact, if I may give some examples of how the process has worked well in the past, the first major export case to the Soviet Union was the sale in 1971 by an English firm of a $20 million computer system to a research laboratory outside of Moscow. The Office of Science and Technology participated in the interagency technical discussions that led to the necessary arrangements to make that sale possible and at the same time to safeguard against the diversion of that system. Also, during the middle 1970's when a number of rather large computers were licensed for the Soviet Union, including those exported to the well-known Kama River truck plant, a knowledgeable observer from the NSC was present at critical technical discussion meetings. It is my observation that such involvement made it possible for effective decisions to be made consistent both with the national policy at that time and with all the relevant technical factors. I am not aware of any similar mechanism that is in place at the present time.

I would like to remark on these two computer export cases. The British Government, by agreement, tracked the use of the computer to Serpukhov in great detail for a number of years. No substantive diversion of that computer occurred. With respect to the Kama River computer, although some of the trucks produced at that plant have been used for military purposes—a possibility carefully studied before the license was granted—to the best of my knowledge there is no evidence that the computer itself has been diverted from functions specified in the license.

I believe that some mechanism, similar to those that have been used in the past, would help alleviate some of the difficulty in the mechanics of the control of the export of high-technology items. The lack of such a mechanism, coupled with our overzealous desire to tightly control the export of hardware and software, without sensible regard to the foreign availability of these items and the depth to which these same items have become embedded in the fabric of our business and everyday society, is the primary cause of the problem.

Senator NUNN. When you say the lack of mechanism, I think I grasp what you are talking about in terms of mechanism. Are you saying the mechanism that is missing now is bringing together the technical expertise from those people that can tell you about the feasibility, availability, and the importance of these particular items; bringing those people together with high-level people?

Dr. BRENNER. That is my observation. That symbiotic relationship whereby the technical people, after the details have been worked out at the technical level, transmit the essence of those discussions to a high enough policy level, appears not to exist.

Senator NUNN. Dr. Brenner, I appreciate your testimony. I am going to get Dr. DeLauer in a minute. I am going to come back to you. If you have time, we will have you come up with Dr. Baker for further questioning.

Senator Bingaman, do you have any questions at this time?

Senator BINGAMAN. Let me ask one question.

As I understand the problem with the present procedure, the Department of Defense essentially has a veto over all these other agencies in these decisions and, therefore, this involvement is somewhat stiffling to the other agencies. Is that an understatement?

Dr. BRENNER. I don't think veto is the correct statement. At the working level, technical working level, the Department of Defense typically has both their own people from the Pentagon and frequently also contract participants. The contract participants are usually at high level, technically speaking. The Department of Defense appears to have difficulty in obtaining highly competent technical people to appear in these meetings from within their own ranks. Typically their people are narrow in approach, they will have concerns about a particular area in which they are knowledgeable and seem unable to look at the situation more broadly.

In any case, at some point policy has to be made, and, as Mr. Root has testified, that becomes difficult because frequently the Defense Department on a large number of important concerns, cannot get their own act together.

Senator BINGAMAN. Thank you very much, Mr. Chairman.

Senator NUNN. Thank you very much.

If you don't mind, we will bring you back.

Dr. DeLauer, we are ready for you.

We appreciate your being here today. We in the subcommittee swear in our witnesses, so I will swear you in.

Do you swear the testimony you are about to give, will be the truth, the whole truth, and nothing but the truth, so help you God?

Dr. DELAUER. I do.

Senator NUNN. Dr. DeLauer, I know that you don't have——

Dr. DELAUER. I have plenty of time.

Senator NUNN. Thank you very much for being here. We welcome your statement this morning. Why don't you proceed as you see fit and then we will have questions for you.

TESTIMONY OF DR. RICHARD D. DeLAUER, UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING, DEPARTMENT OF DEFENSE

Dr. **DeLauer**. I would like to have my statement submitted for the record, Mr. Chairman. If that is agreeable, then I will summarize it and then we can go on to the questions.[1]

Senator **Nunn**. That will be fine.

If I can get staff to pull the mike up. I think Dr. DeLauer needs a glass of water.

Dr. **DeLauer**. I really am very happy to be here. I think it is an important topic. I think it is very timely and germane to many of the things that we are trying to do with increased cooperation, particularly with our allies in Europe. As a consequence, I think that to examine critically both the problems that go with technology transfer as well as the advantages, will serve us all well.

From my standpoint, I believe that anything we can do to increase the investment by the alliance will contribute to the security of the United States. Consequently, I have been taking the initiative at every opportunity to be sure that we can convince our allies to increase their investment. It is clear that they are not going to invest unless it means jobs and it is clear that jobs in many cases means not some of the old same things but things that are new and have some long-term objectives for them.

We loosely call this area of technology the emerging technology. But don't let semantics limit us to the fact that we are also talking about emerged technology, things we already have in our hand, already demonstrated and could, indeed, contribute to our security and to increase the investment by the alliance.

Now, the problem with technology transfer as an isolated issue is that it can get controversial because it means different things to different people. I think the objectives are clear. The objective is that we would like to increase our security, both at home and abroad, in conjunction with our allies, with the most advanced capability that we can produce, at a price we can afford, and at the same time not injuring our trade opportunities, trade relationships and certainly not without having that technology get into the hands of people who we would not like to have their hands on it.

This is a multifaceted objective and if looked at too narrowly or at only one of the facets instead of the others, solutions that are arrived at during that examination can indeed impact trade, security, and linkage to the Eastern bloc.

On the other hand, in my view, technology has a half life, it has a value and that value will decrease with time. And the best time that we should transfer technology, either by trade or by agreed upon agreements, bilaterally or multilaterally, is when we can get the most return on that technology transfer, at the same time providing an increased capability from the Defense Department's standpoint—increased security. To lock it away for the purposes of protecting it, I think, is counterproductive, it will slowly disappear. When you open the safe some years later, you will find it is no longer there, it is dust, and as a consequence you kept it from being utilized in the most optimum fashion.

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[1] See p. 248 for the prepared statement of Dr. Richard D. DeLauer.

From my own personal experience, the example we did in the communications satellite area is one that I think can and should be followed in most other areas. Early in the 1960's, as a consequence of some work being done by the Defense Department in satellites, not so much in communications, it became clear that satellite communications held great promise. Very early in the game those who participated in satellite communications in the United States proceeded to have industry-to-industry relationships established in Europe and then later in the Far East for the purposes of being able to sell our near-term products to them; at the same time, they in turn agreed to do that and pay us royalties if we would transfer the technology.

My own personal opinion is that satellite communications and Intelsat itself would not have been formed without those partnerships established, and they are partnerships that were established by essentially the prime satellite contractors. My organization, TRW, as well as Hughes, and Ford Aerospace, and GE formed a consortium that created a capability within those countries that provided the initiative and impetus to those countries participating in the Intelsat consortium itself and the growth of satellite communications.

That is a positive way it can be done and we did it within the ground rules of security; we did it within the ground rules of trade relationships, and as a consequence we got our royalties for the efforts we did and we used those royalties to upgrade the state of the art and we kept always ahead of them. And that turned out to be a proper way to do it.

I keep looking for those analogs to that approach even now in our other activities. The whole question of the loss of technology and whether or not we are providing opposition more than we should is a debate that will be raised as long as someone reads intelligence reports in different fashions or reads between the lines.

I think, however, that fundamentally, based on all we know, about half the technology losses are in two ways: Half espionage and half through normal trade activity. I think in the case of espionage we have to jack up industrial security. That is where we lose it. And we are in the process of strengthening our own internal industrial security as a consequence of being targeted; and, with our allies and friends, we have proceeded to counsel them, threaten them, do all the things that are necessary to get them to pay attention, and we are slowly making progress with regard to industrial security.

As far as trade is concerned, I think the steps being taken there are proper. The one organization that we all pretty much remember is Cocom. By strengthening Cocom relationships and Cocom procedures, I think we can turn that faucet maybe down to a trickle, and as a consequence, feel reasonably secure we have done the best we can to keep them from obtaining much of our technology through the trade route.

Those are the two parts of the problem that I think we are working seriously on and are getting some results.

Now, Mr. Chairman, that is about where I think I ought to stop and let you ask questions that are on your mind. I think it gives you a flavor of my philosophy. It has value and we ought to transfer it to our friends for the purposes of increasing the collective security.

Senator NUNN. You are saying to lock up technology rather than try to protect the leading edges of it is counterproductive, we must have technology transfer with allies and friends?

Dr. DELAUER. That is absolutely correct. Not for this subcommittee but another we interact with, it is clear that we are never going to be able to outproduce the opposition, particularly with the amount of resources that we and our allies have to devote to this particular thing. The numbers are going to be on their side. What we have to do is take advantage of the capability that resides in our research and development and to mitigate that numerical disadvantage by increased effectiveness. And that is the direction we are going and I think in the next decade we will have a great opportunity to really make that concept come to fruition, if we can get the alliance to invest.

Senator NUNN. Dr. DeLauer, under current procedure, how does the Defense Department arrive at the position of technology transfer? Your office is that of Research and Engineering, the other office is the Office of International Security Policy. How does that procedure work today?

Dr. DELAUER. Well, it works at times like a well-oiled machine and at other times like one that is about to self-destruct.

Basically, the method in which we operate now is that described in DOD Directive 2040.2, which was signed by the Secretary early this year. That came after almost a year of negotiating between all the players in this situation. You know, it is not a Defense Department issue by itself. I think this is one set of activities we do that has so many different players. One, you have the Defense Department itself; you have the Commerce Department that handles many of the Commerce aspects; you have the Trade Ambassador, Mr. Brock, who has a stake in this game, and you even have Treasury now in the act because of some of the offset activities that go along with technology transfer and, of course the State Department. So, it is a very, very complicated set of procedures.

Now, within the Defense Department we have really two problems to handle: One is just the processing of what we call munitions cases—munitions cases are those on the munitions list and we have to process applications for trade issues and technology issues that come up via the munitions list. On that point, the mailbox for the munitions list, up until the final version of Directive 2040.2, was in Research and Engineering and we had been the recipient of all the munitions cases. We immediately started working there, which was a technical review.

Policy was involved because of my relationship in the Defense Department with Fred Ikle, my counterpart on Policy. He deals with State, with the White House, with the other Departments, and I stay away from them. He stays away from my contractors. It is the only way we can make it work, so we agreed to do that beforehand. When we get to the technology transfer issues there is combination of both of those activities. Consequently, for interaction with Commerce, with the State Department and so forth—those things are handled by Policy with support from us. When it comes down to writing the MOU's and writing the specifics of the acquisition process, they come back into R&E and we are the ones responsible for that.

Senator NUNN. Senator Rudman, I know you have to leave. Why don't you go ahead with your questions and I will come back.

Senator RUDMAN. Thank you very much, Mr. Chairman. I have only one. I am going to have to leave. I know that the chairman is going to follow this up.

I am pleased to have you before this subcommittee. We see you a great deal before our Defense Subcommittee. I know that Under Secretaries of Defense are not awarded Purple Hearts for their wounds but from what I have been hearing and reading recently, the battle over Directive 2040 has reached epic proportions. Who is winning?

Dr. DELAUER. I think there are no winners or losers. It has been signed by the Secretary, it is now a fait accompli.

Senator RUDMAN. That is done.

Dr. DELAUER. That is done. It is out. Without going into all the details——

Senator RUDMAN. I imagine we would like to hear the details. It is obvious on reexamination of the draft 2040—which was out for the year—and the final version of 2040, as it came out, that, at least in my view, the direction was toward cooperation and less control. In the original draft version of 2040, if you will read the semantics, it was control, control, control. If you read the final version you will find that much of the push is for cooperation, cooperation, cooperation with safeguards. Now, one guy's cooperation with safeguards is another fellow's control, but the real issue is the perceptions of the people who read it.

I think we have indeed made what I would term a softening of a harder line that was contained in the draft document to start with.

Are there any serious changes in jurisdiction that have now come out? Can you tell us about those?

Dr. DELAUER. The biggest change was the change of where the entry point of the munitions cases resides. R&E had that responsibility before and we were the mailmen, it took a lot of people. It turned out that it was indeed true that Policy wanted to be that point of entry. We were both short of people. You will find that 2 years ago, through the good offices of Senator Jackson, additional people were authorized to be put in the Defense Department; but not only were they authorized, they were directed to be in Policy. At that time, Frank Carlucci was the Deputy Secretary. I objected to all those people going up there when I had the task of doing the job, without the people. At that time Frank Carlucci, Richard Perle, and myself sat down and reallocated those slots. There were 44 people authorized, we reallocated them to about 34 and 10—10 came down to R&E and 34 stayed on the Policy side. We had back enough people and we did the work together. When 2040 was being negotiated, and there really was negotiation, that issue was at the forefront of some of it. There were many others that were just as important, but that was one. Paul Thayer, as the Deputy Secretary, said I could keep the assignment, but he couldn't transfer any people to me. That is a bum way to do business and I said I would rather get rid of the function if I couldn't have the resources to do it. Let somebody else do it that claimed he had the resources and didn't need any more resources. In fact, that is in print. In fact, Policy and R&E work together. They are over at 400 Army/Navy Drive with all the computer displays and the data banks of all the things we need to do to process munitions cases and they are processed just like they were before—only somebody mails them to the Department of Defense, Policy instead of Department of Defense, Research and Engineering.

Senator RUDMAN. You are satisfied that this final implementation, as decided by the Secretary of Defense, is going to enhance this process rather than further restrict it?

Dr. DELAUER. I believe so. I think it deserves a solid examination and trial, which we are doing. I think the problem is we've got a lot of cases, we've got almost 8,000 munitions cases a year; that is a lot of cases.

Senator RUDMAN. Just before you testifed we had some excellent testimony from Dr. Brenner, Director of the Computing Department at the Fermi National Accelerator Laboratory, who is going to be back in the panel. The thrust of Dr. Brenner's testimony, both in answer to questions and in his principal statement, was that one of the problems that he sees is that as the decisions reached the very end of the process and they become policy—there is not enough input, not enough consultation by people who really understand the technical issues that are being presented by the particular decisions to be made.

Do you agree with that?

Dr. DELAUER. I believe in certain cases he has to be absolutely correct.

Senator RUDMAN. Are we going to fix that?

Dr. DELAUER. We are trying to; but again, that is somebody's view. In some cases, how much is enough? On the other hand, a technical assessment of any particular case is the responsibility—most munitions cases that come into the Department of Defense are the responsibility of Research and Engineering. If you read the 2040 in detail, you find there is an appeal process. If we can't have agreement, things can be reviewed by a review oversight apparatus. The final oversight function, the top group that makes the final recommendation to the Secretary of Defense. Remember, all of this goes to him. We recommend to him and he is the one that sends it back to the State Department. That appeal group is chaired by Richard Perle and vice chaired by Jim Wade who is my deputy. That was part of the change we made.

Now, we also included in the rewrite that if neither one of those two people are there, that committee does not meet. We will not delegate that committee's functions to any lower echelon of management. The old thing, that was changed had a Deputy Assistant Secretary of Defense comanage the whole process and if other people were out of town or unavailable, he moved up the ladder. That is no longer the case.

Senator RUDMAN. Isn't that really the critical point in the process, if it has the right kind of technical information at that point, then you might have some sound decisions made; if it doesn't, you might have ideological or philosophical decisions?

Dr. **DeLauer**. Absolutely. If that group still thinks there is a problem, and, for instance, if Perle and Wade decide they have to agree to disagree, they come to Fred or myself and we are supposed to work it together and if we can't make the agreement we finally go to the guy responsible for the whole thing, the Deputy Secretary or the Secretary. We have not had but one or two cases like that, one just recently. We had this and that is exactly the way it happened.

Now, below that group there are two subgroups which I think are very important to your comments in regard to review being done; one subgroup is concerned with the question of an established piece of equipment in munitions—say an already built computer—and that group is chaired by Steve Bryen and cochaired by my counterpart to Steve Bryen, Tal Lindstrom. The other subgroup is chaired by R&E and considers the relationship with the universities and scientific community. That subgroup is chaired by Edith Martin and is vice chaired by Bryen. You can see that Edith Martin is in this thing in quite a few places. I split it up because I think there are different responsibility areas. I have not only international programs but technology; they have primarily international programs.

Senator **Nunn**. The interesting thing here, what Senator Rudman, you are getting at, and I think the key to the hearing is that the reason Congress, as I remember the legislative debate, wanted Defense to play such an important role in this area was because Defense was looked on as having the technical expertise. We were looking for the technical judgment from Defense, not ideological or political views. We felt that those views, while legitimate, would primarily come from the State Department and that the economic views from the Commerce Department. But, in effect, when we involved Defense in such a big way—and I remember Senator Jackson's amendment on it, and I in fact voted for that amendment—our intent was to get these decisions not only from pure economic and pure political and idealogical view but also from the technical experts.

And now it seems that it involved a royal battle in the Defense Department, which you are now saying we have something we can work toward now, compromise where the ideological was challenging and vice versa the technical. You are representing the technical side and that is the interesting history of this because that was not the original intent. We wanted a technical judgment on how it affected our security out of the Department of Defense.

Let me read one thing and then, Dr. DeLauer, I will get you to comment.

We have a statement in our record, which is incorporated today, from Larry Sumney, the executive director of the Semiconductor Research Institute. He was formerly head of the Navy VHSIC program, which is very high speed integrated circuit technology. And this goes to the point. I quote him:

> The classification group is genuinely concerned with keeping our technology out of adversary hands. They tend to come from the fields of international affairs, foreign affairs, economics and law. They are in no position to assess the technology or

the effects of their suggestions on the work of technologists, manufacturers and the technical community. They argue from an ideology.

Now, this, I think, is the relevant point here and I guess the bottom line of our question. Is the Defense Department technically in command in terms of Defense decisions or are you in effect either being overruled or are you in a partnership with people who are not bringing in technical judgment?

Dr. DeLauer. In the case of the technical assessment of any particular situation, the same degree of technical expertise that you, the Congress, desired to have the Defense Department participate in is being carried out and, in some cases, even more so. I think the difference that exists in this administration, and one of the recent past, is the role that Policy plays in the technology transfer issue. There are just different people in there. That was not an agenda that the Policy people in the previous administration wanted to play. As a matter of fact, toward the end of the administration, the Under Secretary for Policy did not want to work the arms transfer issue at the bottom of the acquisition level or the technology transfer level, and as a consequence my predecessor played a much more important part making the final decision. As a matter of fact, there was an agreement that even the Defense Security Administration Agency, which is DSAA, which is now in policy, would move down to R&E. That happens to be a recommendation that the Committee of the Defense Science Board has recommended and we are in the process of trying to make that happen. That is going to be as big a fight as 2040 when we are all through. But, that is an acquisition process that properly belonged under the acquisition executive, which is me.

Senator Rudman. If I may, Senator, I am going to have to leave. I want to say that I guess the only way we are really going to find out is to see how this works. Obviously, there is not going to be much chance for any legislative changes, nor do I think there ought to be at this particular point. But I suppose someone here in Congress is going to have to review what the results of all this have been, whether or not what Dr. Brenner has said has happened—not just in this administration; we go back to really 1974—whether or not the problem is getting better, or whether there are legitimate differences as to the kind of decisions that are reached. Only time is going to tell that.

Dr. DeLauer. Before you go, Senator Rudman, since you focus on this, my own view is that Congress ought to listen to the people that put the Corson Report together for the National Academy of Science. That is a good report. I have sent a letter to Congress, cosigned by Don Kennedy who is my cochairman of the University Forum, because not only is this a trade issue, it is a question of university research—a basic portion is in publishing papers.

Senator Rudman. I think that is an excellent suggestion.

Dr. DeLauer. As a matter of fact, we have argued that and signed the letter saying that the Corson Report should be the basis for technology transfer substance in the Export Administration Act extension because, to me, the problem of transferring munitions cases and working them are much easier than the very first portion of the problem: Where does the basic research get done, who publishes it, how is it published, and whether or not the hardline is going to be focused on that.

Now, I have given you this gratis, you have not asked. I think technology and knowledge have half life if you wait long enough. I sold pumps to the Soviets for 10 years during the period of détente. The pump happened to be designed by a Russian—Artunov. The Soviets had the pump since 1972 and they have never been able to replicate it. It is not complicated but a well-designed combination of electromechanical devices. They seem to do things mechanically and we do things electrically but they have, in their civilian capability, a tough time putting electromechanical things together—that is not the case in the military. They do a pretty good system job in that part of the spectrum. But in the first part of the spectrum we try to do a good job in diffusing a very, very sticky thing with the academic community.

This whole question of the prior review and that sort of thing, I think we have done a lot to quiet that down.

Senator **Rudman**. I want to thank you very much. I want to thank Senator Nunn for his leadership in these things. I don't think that any single issue impinges on so many things—trade, employment, national security. All of these things are important and I believe that these hearings will serve a very useful purpose.

Senator **Nunn**. Senator Rudman, I know you have to leave, but one other thing before you do. Dr. DeLauer alluded that if we are ever going to have cooperative efforts toward a viable defense in NATO, then we must have cooperation and you can't get so defensive about this subject. We want to defend everything that we can that is important. We do not want to lose sight of the cooperative effort with the Alliance that is indispensable to any kind of reasonable NATO defense.

Dr. **DeLauer**. We are faced right now with it. We have platforms you can't see, delivery weapons that don't miss, all using information that is being generated in real time. The United States can do these things now. The whole Alliance can't do this yet; but a few selected countries can do portions. We ought to be sure we get that technology to our friends. I think we are making progress, we are making some progress.

Senator **Nunn**. Senator Bingaman.

Senator **Bingaman**. Let me ask a few questions.

How have our Allies reacted to greater control by the Policy Office of DOD? What kind of reaction have you received?

Dr. **DeLauer**. I think you get a mix. However, when you deal with the Allies it is not monolithic either. Right now the terms are pretty much that the Allies don't want to invest in anything that is going to upset their budget. In many cases they will use excuses such as, "you won't give it to us, you can't get it out of the system; therefore, we are not going to invest." This is an excuse more than a reason for not providing investment.

Congress itself has contributed to the problem in some of these areas by placing some restrictions on technology transfer relating to our weapons systems. For example, sonar arrays, and some of the restrictions on speciality metals. The Allies, in general, will support us if we are really cooperative. In many respects they think that we tend to use technology as a primary excuse not to do something that is really a secondary or tertiary objective. In order to tighten up Cocom, we might want to say we are holding back and not be totally cooperative in order to make a point on this.

Just as Senator Nunn pointed out, you can't separate geopolitical from technological. My view has been that I will give you the best technical judgment I can. If, for other reasons, you do not wish to proceed with that transaction, so state up front.

Senator **NUNN**. The question there, is the role of the Defense within the Defense Department to override the technical part and come out with a Defense position based on policy rather than technical? It seems to me what I thought we are doing was trying to get the very best technical judgment we could from Defense, which is your judgment, and then blend that in with the policy judgment, coming from the other agencies. But, if we don't have Defense technical assessments coming out as a Defense position with clarity to the other agencies and to the President, then eventually, where is the technical coming from? You have policy coming from State, you have economics coming from Commerce and hopefully the technical coming from Defense. But we are hearing it is not necessarily technical coming from Defense.

Dr. **DELAUER**. You are correct. The Defense position is not limited to technology. That is the situation as it now exists in the Defense Department. But I can't look at anybody but you. You and Senator Jackson had a lot to do with how we are where we are now because the policy considerations were not explicitly examined. The Defense Department still provides the technical input. State does not go elsewhere for technical input, Commerce does not. Basically within the administration we are the ones that provide the technical input.

Senator **NUNN**. What I thought we were doing was basically getting the technical from Defense and letting that be blended in. Is it the law that is doing that or policy decisions? You said in the previous administration it was primarily the technical end. But you are saying under this administration is is not the technical, that is part of it but not the whole thing, but the law has not changed in the meantime.

Dr. **DELAUER**. I think that it is how the leadership has decided to manage their affairs.

Senator **NUNN**. But the law doesn't require that. You could have this judgment set up under your shop in the Department of Defense and not have the law changed, right?

Dr. **DELAUER**. That is right. That can be a decision by the Secretary. Absolutely right.

Senator **NUNN**. I don't know precisely what everybody had in mind in this area, but it was my view that the Defense was being looked at for the technical judgments in this area.

Dr. **DELAUER**. The model of the Defense Department has changed.

Senator **NUNN**. Within the same law?

Dr. **DELAUER**. Within the same law.

Senator **NUNN**. Where the law is broad enough to accommodate either of those, that is what you are saying?

Dr. **DELAUER**. Yes.

Senator **Bingaman**. Let me explore this. You folks have been over this ground a few times, I haven't. The input from Defense is supposed to come together with the input from State and other agencies and who makes the policy judgment?

Dr. **DeLauer**. Everybody is in the act to a certain degree. What we do is make a recommendation.

Senator **Bingaman**. The White House makes the final decision?

Dr. **DeLauer**. If it has to. If decisions have to be sent there for resolution. There is an interagency group that handles some of this. In munitions cases, the final promulgation is from the State Department. In trade cases, it is the Commerce Department by law. There are things listed as munitions cases as opposed trade cases. There is not much argument about jurisdiction over those things. The consequences, in many cases tend to get controversial; particularly when you consider inputs from the Trade Ambassador who is trying to determine, for example, how we will deal with PRC; the White House initiatives, and so forth—the whole gamut—and they are all going to be involved.

Senator **Bingaman**. Let me ask you about the PRC. I gather we did have a liberalization of our policy. How did that come about? Can you take that as a case example?

Dr. **DeLauer**. I think you had better ask the administration, either the Trade Ambassador or the security folks. I became involved only when they wanted to change the code we used to determine how we dealt with them. It was a Presidential initiative to have a more liberal policy with PRC. The change of status permitted many actions that were not permitted before, including discussions at the working level in sufficient detail that to look at specifics and start processing munitions cases in a way that was difficult, less restrictive, although we did have some munitions cases with the People's Republic of China before the change in policy.

Senator **Bingaman**. But the Defense Department was not involved in the policy decision prior to the President deciding——

Dr. **DeLauer**. I think the Secretary was.

Senator **Bingaman**. But you are not familiar how that was done?

Dr. **DeLauer**. No.

Senator **Bingaman**. That is all I have, Mr. Chairman.

Senator **Nunn**. Dr. DeLauer, getting to some of the specifics—and some of this may have been solved by the Secretary's recent order. But, I would like to get your understanding where we are now.

Looking back at Policy and Technical differences of opinion within the Department of Defense, I make reference to an article in Aviation Week & Space Technology, dated December 19, 1983, entitled "Export Policy Triggers Dispute." We do not have the memorandum that that article was based on. We have asked for it from the Department of Defense and we have not received it and that is the subject of another set of questions but I won't involve you with those today because I think that would have to be addressed with Secretary Weinberger or Secretary Taft, one or the other.

The article states that in a December 13, 1983, memo to Richard Perle, you suggested that Mr. Perle and his subordinates circumvented Deputy Secretary W. Paul Thayer in their efforts to make

2040 an official DOD policy. You also suggested they were taking unilateral and uncoordinated actions detrimental to DOD interests and of ignoring Research and Engineering expertise in technology transfer matters.

Was this an accurate portrayal of your view at that time?

Dr. DeLauer. Yes, sir; that is why we changed.

Senator Nunn. Would that still be your view or has that changed?

Dr. DeLauer. What happened was that 2040 was going to be put out essentially in the same form as the interim policy, and I objected. It was being sent to the Secretary's office to be signed off. I received a copy and said: "I don't agree with this. We are supposed to finish the coordination on this." As a consequence of my interjection those things I mentioned in the meeting were changed. In a detailed examination of the two versions which are both public, you can see the changes. For example, in the review structure, committees were changed. There were certain of my responsibilities that were straightened out as a consequence of the coordination. The tone was softened more toward cooperation than control. This all came as a consequence of my involvement.

If you were to ask me if I feel that I got everything that I thought was important enough to fight for, I would say that the only thing I didn't get was the munitions mail box function. I earlier recited that I wanted that function, but I couldn't get the people to do it. I am not going to fight that problem. Let's try it the other way and see how it works out. That was the compromise on my part.

Senator Nunn. Now, when you look at the International Security Policy Office, is that office structured with a kind of technical expertise? Are they making technical judgments or is this strictly a policy office?

Dr. DeLauer. They are not supposed to make technical judgments.

Senator Nunn. What about all the people transferred there?

Dr. DeLauer. Of the people that they put in their organization, some have technical background, but their function is not to provide the technical input to it.

Senator, let me make it clear. Even the Department of Defense, including all the R&E people, do not have on board the necessary technical expertise to adjudicate many of these cases. What is in R&E is the technical leadership to get the right points of view either out of the services or from industry or from wherever.

Senator Nunn. But you are structured where the people at the top, including you, as this information flows up, both internal or external, people at the top are people who are technically trying to——

Dr. DeLauer. They are technical, Edith Martin, myself, Tal Lindstrom.

Senator Nunn. The Office of International Security that is not technical policy?

Dr. DeLauer. It wasn't intended to be.

Senator Nunn. Let me get on to the article.

The article says that you stated that Mr. Perle and Dr. Stephen Bryen, Mr. Perle's Deputy Assistant Secretary for International

Economic, Trade and Security Policy had made "a serious misallocation of scarce resources."

Is this the resource problem you were referring to a minute ago?

Dr. **DeLauer**. That is the one I was talking about.

Senator **Nunn**. And that has been compromised, is that right?

Dr. **DeLauer**. When I had my discussions with Frank Carlucci, I would have liked to have had more out of the 44 than 11 to do the job, and that was really part of the problem I had with Paul Thayer. The fact is he would not give us people for the processing of munitions cases, which isn't just necessarily providing a technical answer to a problem. That effort is included but that total is not sufficient. There have to be others. The whole question of availability of resources, what systems do we have them in, what does it mean to us to do it, talking to the services and finding out what their views are on these things. It is a management function, and you need people to do the management function. I didn't have enough people.

Senator **Nunn**. And you still don't?

Dr. **DeLauer**. I have enough people to do the technical assessment because I can reach out to as many people as I want. But to manage the function, I did not have enough people.

Senator **Nunn**. And still don't?

Dr. **DeLauer**. And still don't, and I don't think they have enough people, to tell you the truth. I think we both are understaffed with the amount of cases we have.

Senator **Nunn**. That same article indicated that Research and Engineering recommendations regarding technical parameters and departmental positions to be used in negotiating Cocom's multilateral export controls on computer hardware and software, radars, robotics and telecommunications switching were ignored. You were quoted as saying, "This has resulted in politicizing the Cocom technical discussions and has raised serious questions as to the technical credibility of representatives to the negotiations and has given an inconsistent and thus confusing message to both U.S. and allied industry."

Dr. **DeLauer**. I think that is an overstatement. Some of the elements of that are, indeed, my concern. What has happened since that time is that as a consequence of the negotiations and agreement on 2040.2, we have had some handshakes on who is to participate in the Cocom meeting. We will have the technical representatives there as well as the policy side. Cocom in many cases is not really the responsibility of the Defense Department. We just provide technical support primarily to the State Department. So, I wanted to be sure that we had our technical support people representing our side.

Senator **Nunn**. Was this all in writing, this policy now?

Dr. **DeLauer**. Yes, I thought I had a copy.

Senator **Nunn**. You can supply that for the record.

Dr. **DeLauer**. I will send you the old one too.

[The material referred to was marked "Exhibit Nos. 1 and 1A," for reference. Exhibit No. 1 follows. Exhibit No. 1A may be found in the files of the subcommittee.]

EXHIBIT NO. 1

January 17, 1984
NUMBER 2040.2

Department of Defense Directive

ASD(ISP)

SUBJECT: International Transfers of Technology, Goods, Services, and Munitions

References:
(a) Public Law 96-72, "The Export Administration Act of 1979," as amended (50 U.S.C. 2401 et seq.)
(b) Public Law 94-329, "The Arms Export Control Act," as amended (22 U.S.C. 2751 et seq.)
(c) National Security Decision Directive Number 5, "Conventional Arms Transfer Policy," July 8, 1981
(d) through (q), see enclosure 1

A. PURPOSE

This Directive:

1. Implements relevant portions of references (a) through (c) by establishing policy, assigning responsibilities, and prescribing procedures for international transfer of defense-related technology, goods, services, and munitions.

2. Establishes the DoD International Technology Transfer (IT^2) Panel and Subpanels, whose charters are at enclosure 2.

3. Cancels DoD Directive 2030.4, DoD Directive 5030.28, and the Secretary of Defense Memorandum of December 29, 1983 (references (d), (e), and (f)).

B. APPLICABILITY AND SCOPE

1. This Directive applies to the Office of the Secretary of Defense, the Organization of the Joint Chiefs of Staff (OJCS), the Military Departments, and the Defense Agencies (hereafter referred to collectively as "DoD Components").

2. This Directive applies to all technology transfer mechanisms and shall be implemented through such processes as strategic trade licensing, munitions licensing, security assistance, and DoD research, development, and acquisition activities.

3. The policies, procedures, and responsibilities contained in NDP-1 and DoD Directive 5230.11 (references (g) and (h)) concerning disclosures of classified military information are not affected by this Directive.

C. DEFINITIONS

The terms used in this Directive are defined in enclosure 3.

D. POLICY

It shall be DoD policy to treat defense-related technology as a valuable, limited national security resource, to be husbanded and invested in pursuit of national security objectives. Consistent with this policy and in recognition of the importance of international trade to a strong U.S. defense industrial base, the Department of Defense shall apply export controls in a way that minimally interferes with the conduct of legitimate trade and scientific endeavor. Accordingly, DoD Components shall:

1. Manage transfers of technology, goods, services, and munitions consistent with U.S. foreign policy and national security objectives.

2. Control the export of technology, goods, services, and munitions that contribute to the military potential of any country or combination of countries that could prove detrimental to U.S. security interests.

3. Limit the transfer to any country or international organization of advanced design and manufacturing know-how regarding technology, goods, services, and munitions to those transfers that support specific national security or foreign policy objectives.

4. Facilitate the sharing of military technology only with allies and other nations that cooperate effectively in safeguarding technology, goods, services, and munitions from transfer to nations whose interests are inimical to the United States.

5. Give special attention to rapidly emerging and changing technologies to protect against the possibility that militarily useful technology might be conveyed to potential adversaries before adequate safeguards can be implemented.

6. Seek, through improved international cooperation, to strengthen foreign procedures for protecting sensitive and defense-related technology.

7. Strive, before transferring valuable defense-related technology, to ensure that such technology is shared reciprocally.

E. PROCEDURES

1. In all technology transfer cases referred for review, the DoD Components concerned shall:

a. Consider proposed transfers of technology, goods, services, and munitions on a case-by-case basis.

b. Conduct policy reviews, technical evaluations, operational and military mission impact assessments, and intelligence assessments of proposed transfers.

c. Ensure that transfers of technology, goods, services, and munitions:

(1) Are consistent with U.S. national security and foreign policy objectives.

(2) Do not constitute an unreasonable risk to U.S. security in the degree to which they reduce technological leadtime.

(3) Receive positive consideration when such transfers will result in tangible and direct benefits to the defense objectives of the United States and its allies or to the defense industrial base. Such benefits should be at least equivalent to the value of the technology transferred.

d. Make sensitive transfers conditional upon agreements with allied and other nations that restrict the transfer of technology, goods, services, and munitions that harm or may harm the security of the United States and the security of U.S. allies and other friendly nations.

e. Oppose transfers of sensitive technology, goods, services, and munitions through multinational organizations in which potential adversaries participate.

f. Assess whether recipient nations:

(1) Restrict their transfer or export of U.S. technology, goods, services, and munitions to other nations who use, or may use, such technology, goods, services, and munitions against the best interests of the United States.

(2) Secure written U.S. Government agreement before reexporting U.S. technology, goods, services, and munitions.

(3) Maintain control over U.S. technology, goods, services, and munitions.

(4) Report promptly and fully to the U.S. Government any known or suspected transfers of U.S. technology, goods, services, and munitions that do not have U.S. Government approval.

(5) Transfer non-U.S. critical technology, goods, services, and munitions harmful to U.S. security.

g. Assess annually the total effect of transfers of technology, goods, services, and munitions on U.S. security, regardless of the transfer mechanisms involved.

h. Support approved DoD programs designed to inform government, Congress, industry, academia, and the public on the dangers of the loss of Western technological leadership.

2. In strategic trade cases, the DoD Components concerned shall:

a. Assess whether proposed transfers of technology and goods through actual or potential military use could threaten U.S. security, regardless of the stated end use or end user of such technology and goods.

b. Ensure that potential transfers of technology and goods are assessed with a primary consideration to control of critical technology as described by Pub. L. 96-72 and the "DoD Militarily Critical Technologies List" (references (a) and (i)).

c. Disapprove exceptions to the Coordinating Committee of the Consultative Group (COCOM) lists that are disadvantageous to the security of the United States and its allies.

d. Support North Atlantic Treaty Organization (NATO) efforts to control technology and goods.

e. Provide support to, and cooperate with, non-COCOM countries to control the transfer of militarily relevant technology and goods to the Warsaw Pact nations.

f. Assess whether recipient nations support U.S. objectives in COCOM and the COCOM embargo.

3. In munitions licensing cases, the DoD Components concerned shall:

a. Give favorable consideration to transfers of services and munitions to U.S. allies and friendly nations that are intended to achieve specific U.S. defense objectives.

b. Ensure that transfers of munitions and services involving critical technology receive special scrutiny, taking into account the importance of arms cooperation with NATO and other close friendly nations and allies, potential third-party transfers, and the protection of advanced military operational capabilities and associated technology.

c. Ensure that decisions on munitions license applications that involve or may lead to the disclosure of classified military information are in compliance with NDP-1 and DoD Directive 5230.11 (references (g) and (h)).

4. The DoD Components concerned shall submit unresolved technology security cases and issues to the appropriate DoD IT^2 Subpanel for resolution.

5. Two subcommittee reports to the DoD Steering Committee on National Security and Technology Transfer (references (j) and (k)), when approved, may provide additional procedural guidance affecting publications and technology monitoring.

F. COORDINATING COMMITTEE OF THE CONSULTATIVE GROUP (COCOM)

1. COCOM, founded in 1949, is an informal multinational organization made up of the NATO nations (except Iceland and Spain) and Japan. COCOM'S mission is to maintain a uniform export control system among its member nations in order to protect Western security.

2. DoD Components concerned with strategic trade policy shall seek to strengthen COCOM by:

a. Promoting the development of a professional secretariat.

b. Promoting the tightening of the strategic control list.

c. Encouraging enforcement of COCOM controls.

d. Promoting a threshold on the COCOM list beyond which technology and goods cannot be transferred to potential adversaries.

e. Promoting broader membership of free-world nations in COCOM and associate agreements with COCOM for advanced, industrialized nations.

f. Promoting the establishment of a military committee to consider strategic issues related to the control programs.

g. Providing full-time DoD policy representation to COCOM.

h. Supporting and promoting other measures that strengthen the COCOM organization and function and that support U.S. objectives.

G. RESPONSIBILITIES

1. The Under Secretary of Defense for Policy (USD(P)) shall:

a. Develop, coordinate, and issue policies relating to technology transfer control in accordance with DoD Directive 5111.1 (reference (l)).

b. Prepare technology transfer control and enforcement policy guidance and coordinate overall application of DoD policy.

c. Represent the Department of Defense in interagency, national, and international forums concerning policy for technology transfer control and enforcement matters.

d. For technology transfer policy matters, serve as DoD point of contact for foreign governments, international agencies, other federal agencies, interagency groups, industry, and DoD Components.

e. Act as the DoD receiving point for all strategic trade, COCOM, and munitions license cases.

f. Conduct policy reviews on technology, goods, services, and munitions transfer cases.

g. Prepare the coordinated DoD position for strategic trade, COCOM, and munitions license cases. If the projected recommendation differs from recommendations of the DoD Components concerned, advise the DoD Components of the recommendation and supporting rationale in sufficient time to permit submission of the issue to the DoD IT^2 Subpanel A before issuing the position.

h. Issue coordinated DoD recommendations on strategic trade, COCOM, and munitions transfer cases to the Commerce and State Departments.

i. Develop and maintain comprehensive reference data bases on technology, goods, services, and munitions transfer matters that are accessible to all DoD Components.

j. Provide to DoD Components a weekly update of the disposition of significant transfer cases.

k. Provide executive direction of the DoD IT^2 Panel in accordance with enclosure 2.

l. Develop, review, and negotiate international agreements under this Directive, DoD Directive 5530.3, and DoD Instruction 2050.1 (references (m) and (n)).

m. Assess, with the support of the Director, Defense Intelligence Agency (DIA), and the Chairman, National Disclosure Policy Committee, recipient nations':

(1) Laws, regulations, and internal operating procedures to determine their ability to enforce technology security and control provisions of applicable U.S. export license stipulations, specific cooperative program agreements with the U.S. Government, COCOM embargoes, and other industrial and government agreements.

(2) Reliability in maintaining control over technology, goods, services, and munitions that originate in the United States and whose transfer to other nations may be against the best interests of the United States.

(3) Reliability in securing prior written U.S. Government approval before exporting technology, goods, services, and munitions originating in the United States to other nations.

(4) Reliability and promptness in reporting known or suspected transfers of U.S. technology, goods, services, and munitions that were not approved by the U.S. Government.

(5) Support of U.S. objectives in COCOM and the COCOM embargo.

(6) Cooperation and support for the principle of sharing technology of comparable value with the United States.

(7) Reliability in preventing transfer to potential adversaries of non-U.S. critical technology, goods, services, and munitions harmful to the U.S. security.

n. Request the Under Secretary of Defense for Research and Engineering (USDR&E) to provide technical advisors and consultants necessary to support development of DoD technology transfer policy.

o. Assess annually the total effect of technology, goods, services, and munitions transfers on the security of the United States, regardless of the transfer mechanism involved.

p. Support the U.S. intelligence and enforcement communities in their efforts to halt or control the flow of technology, goods, services, and munitions to potential adversaries.

q. Establish, through the appropriate DoD IT^2 Subpanel, working groups and task forces to develop ways and means to protect technology from exploitation by potential adversaries.

2. The Under Secretary of Defense for Research and Engineering shall:

a. Manage overall DoD technical and acquisition efforts related to technology, goods, services, and munitions transfer in accordance with DoD Directive 5129.1 (reference (o)).

b. Oversee implementation of DoD technology transfer policy for all research, development, and acquisition matters.

c. For research, development, and acquisition matters, act as DoD point of contact with industry, other federal agencies, interagency groups, DoD Components, academia, and appropriate international forums.

d. Coordinate the technical review of strategic trade, COCOM, and munitions cases and establish the DoD technical positions, with supporting rationales, regarding the proposed transfer of technology, goods, services, and munitions.

e. Develop and administer programs to identify and define lists of militarily critical technologies that should be controlled for export, including necessary guidelines.

f. Manage technical efforts in support of DoD participation in and implementation of studies and analyses of COCOM, U.S. export controls, and related technology, goods, services, and munitions transfer matters.

g. Develop the DoD technical portion for the "DoD Militarily Critical Technologies List" (reference (i)) revisions and COCOM negotiations.

h. Provide technical advisors and consultants as needed to support the USD(P) in the development of DoD technology transfer policy.

i. Provide technical support of DoD views in interagency, national, and international forums of technology, goods, services, and munitions transfer matters.

j. Provide technical support for USD(P) assessments of the foreign availability of technology, goods, services, and munitions.

k. Develop, review, and negotiate international agreements in accordance with this Directive, DoD Directive 5530.3, and DoD Instruction 2050.1 (references (m) and (n)).

l. Develop and maintain a comprehensive technical data base for technology, goods, services, and munitions transfer cases.

m. Participate on the DoD IT^2 Panel and Subpanels in accordance wi enclosure 2.

n. Support the U.S. intelligence and enforcement communities in their efforts to halt or control the flow of technology, technical data, goods, services, and munitions to potential adversaries.

o. For technology transfer research cases:

(1) Serve as the receiving point in the Department of Defense.

(2) Obtain a policy position from the USD(P).

(3) Conduct reviews and prepare coordinated DoD recommendations, with supporting rationales.

(4) Advise DoD Components if the projected recommendation differs from their recommendations and provide an opportunity for the DoD Components to submit the issue to the DoD IT^2 Subpanel B before issuing a DoD position. If a case is appealed, within 15 days the case shall be decided and all interested parties notified or the case shall be referred to the Deputy Secretary of Defense or Secretary of Defense for a final decision.

(5) Issue, after the appeal process is completed, the coordinated DoD recommendation.

3. The Assistant Secretary of Defense (International Security Policy) (ASD(ISP)) shall:

a. Monitor compliance with this Directive through the Deputy Assistant Secretary of Defense (International Economic, Trade, and Security Policy) (DASD(IETSP)).

b. Chair the DoD IT^2 Panel and participate on the DoD IT^2 Subpanels in accordance with enclosure 2.

4. The Chairman of the Joint Chiefs of Staff shall:

a. Conduct and provide operational and military mission impact assessments on technology, goods, services, and munitions transfer issues, as requested.

b. Provide operational expertise and military judgment in interagency, national, and international forums on technology, goods, services, and munitions transfer matters.

c. Participate on the DoD IT^2 Panel and Subpanels in accordance with enclosure 2.

5. The Director, Defense Intelligence Agency, shall:

a. Formulate DoD coordinated intelligence assessments concerning the types and numbers of illegal transfer of technology, goods, services, and munitions and the associated transfer mechanisms.

b. Designate a point of contact to represent the DIA on technology, goods, services, and munitions transfer matters.

c. Conduct and provide intelligence reviews on technology, goods, services, and munitions transfer cases.

d. Assess foreign availability of technology, goods, services, and munitions proposed for transfer.

e. Conduct end-user checks on the declared ultimate consignee on technology, goods, services, and munitions transfer cases.

f. Provide intelligence expertise in interagency, national, and international forums on technology, goods, services, and munitions transfer matters.

g. Provide intelligence concerning the total effect of transfers of technology, goods, services, and munitions on U.S. security.

h. Participate on the DoD IT^2 Panel and Subpanels in accordance with enclosure 2.

i. Assist in identifying and assessing critical technology.

6. The Heads of DoD Components shall:

a. Designate a point of contact in their respective Component for technology, goods, services, and munitions transfer matters.

b. Conduct assessments of proposed technology, goods, services, and munitions transfer cases as required and provide coordinated positions.

c. Assist in identifying and assessing critical technology and in supporting DoD participation in export control list reviews.

d. Participate on the DoD IT^2 Panel and Subpanels in accordance with enclosure 2.

e. Consistent with this Directive, DoD Directive 5530.3, and DoD Instruction 2050.1 (references (m) and (n)), coordinate the development and negotiation of international agreements pertaining to technology, goods, services, and munitions transfers.

f. Assure the calculation of nonrecurring cost recoupment charges in accordance with DoD Directive 2140.2 (reference (p)).

H. EFFECTIVE DATE AND IMPLEMENTATION

This Directive is effective immediately. Forward two copies of implementing documents to the Assistant Secretary of Defense (International Security Policy) within 120 days.

Caspar W. Weinberger
Secretary of Defense

Enclosures - 3
1. References
2. DoD International Technology Transfer (IT^2) Panel and Subpanels
3. Definitions

(REFERENCES continued from page 1)

(d) DoD Directive 2030.4, "DoD Support for the Strategic Trade Control Program," December 11, 1962 (hereby canceled)
(e) DoD Directive 5030.28, "Munitions Control Procedures for U.S. Munitions List Export License Applications Referred to DoD by Department of State," March 10, 1970 (hereby canceled)
(f) Secretary of Defense Memorandum, "DoD Directive 2040.2, "International Transfers of Technology, Goods, Services, and Munitions," December 29, 1983 (hereby canceled)
(g) "National Policy and Procedures for the Disclosure of Classified Military Information to Foreign Governments and International Organizations" (NDP-1), September 9, 1981
(h) DoD Directive 5230.11, "Disclosure of Classified Military Information to Foreign Governments and International Organizations," March 2, 1979
(i) Under Secretary of Defense for Research and Engineering, "DoD Militarily Critical Technologies List (U)" (Secret Noforn), October 1, 1982
(j) Report when approved of the Subcommittee on Publications to the DoD Steering Committee on National Security and Technology Transfer, November 9, 1983
(k) Report when approved of the Subcommittee on Technology Monitoring to the DoD Steering Committee on National Security and Technology Transfer, September 19, 1983
(l) DoD Directive 5111.1, "Under Secretary for Policy," October 27, 1978
(m) DoD Directive 5530.3, "International Agreements," December 6, 1979
(n) DoD Instruction 2050.1, "Delegated Approval Authority to Negotiate and Conclude International Agreements," July 6, 1977
(o) DoD Directive 5129.1, "Under Secretary of Defense for Research and Engineering," November 29, 1978
(p) DoD Directive 2140.2, "Recoupment of Nonrecurring Costs on Sales of USG Products and Technology," January 5, 1977
(q) DoD Directive 5400.7, "DoD Freedom of Information Act Program," March 24, 1980

DOD INTERNATIONAL TECHNOLOGY TRANSFER (IT^2) PANEL AND SUBPANELS

A. THE DOD IT^2 PANEL

1. Functions. The DoD IT^2 Panel shall:

a. Identify and address technology transfer policy issues.

b. Resolve differences within the Department of Defense concerning program administration, interagency issues, and coordinated DoD recommendations on transfer cases referred by the DoD IT^2 Subpanels.

2. Organization and Management

a. The DoD IT^2 Panel shall be chaired by the ASD(ISP) or, in his absence, by the vice-chair.

b. The vice-chair shall be the Principal Deputy USDR&E (PDUSDR&E) or, in his absence, a person designated by the ASD(ISP) shall serve as chair.

c. In addition to the chair and the vice-chair, the Panel consists of representatives of the Office of the Deputy USD(P) (ODUSD(P)), the Office of the ASD(ISP) (OASD(ISP)), the Office of the USDR&E (OUSDR&E), the OJCS, the Defense Security Assistance Agency (DSAA), the DIA, the National Security Agency (NSA), the Defense Advanced Research Projects Agency (DARPA), and the Military Departments.

d. Panel members, excluding representatives of the NSA, DSAA, DARPA, and DIA, shall have one vote, and all voting members shall be polled on any decision. The NSA shall vote on matters having a potential impact on the cryptologic (communications security (COMSEC) and signals intelligence (SIGINT)), computer security, and electronic warfare (EW) mission areas. The DSAA shall vote on matters concerning security assistance. The DIA and DARPA shall serve in an advisory capacity.

e. Other DoD Components and other agencies and individuals may be invited to participate as necessary, but will have no vote.

f. Issues may be referred to the Panel on the recommendation of any voting member or from the DoD IT^2 Subpanels.

g. The Panel shall meet quarterly and at other times subject to the call of the chair.

h. On matters not concerning the resolution of DoD positions on specific transfer cases, a two-thirds majority vote shall resolve any differences.

i. In resolving differences concerning coordinated DoD recommendations on transfer cases, a unanimous vote is required to recommend approval of a proposed transfer.

j. Appeals shall be resolved by the Secretary of Defense or Deputy Secretary of Defense and may be made by any voting member of the Panel.

B. DOD IT^2 SUBPANEL A, EXPORT CONTROL POLICY

1. Functions. The DoD IT^2 Subpanel A shall:

a. Resolve differences within the Department of Defense on matters referred to it concerning the transfer of technology, goods, services, and munitions; IT^2 program administration and interagency technology transfer issues; and transfer cases requiring a coordinated DoD recommendation.

b. Identify and recommend solutions to technology transfer policy issues.

c. As required, form working groups drawn from member organizations and agencies to address specific issues raised by the DoD IT^2 Panel, by member organizations or agencies, or as deemed appropriate by the chair to address high-priority technology transfer policy issues.

2. Organization and Management

a. The DoD IT^2 Subpanel A shall be chaired by the DASD(IETSP), OASD(ISP).

b. The vice-chair shall be the Deputy Under Secretary of Defense (International Programs and Technology) (DUSD(IP&T)), OUSDR&E.

c. In addition to the chair and vice-chair, the Subpanel consists of representatives of the ODUSD(P); the ODASD(IETSP), OASD(ISP); the ODUSD(IP&T), OUSDR&E; the OJCS; the DSAA; the NSA; the DIA; DARPA; and the Military Departments.

d. Each member, excluding representatives of the DSAA, NSA, DIA, and DARPA, shall have one vote. All voting members shall be polled on any decision. The DSAA shall vote on matters concerning security assistance. The NSA shall vote on matters having a potential impact on the cryptologic (COMSEC and SIGINT), computer security, and EW mission areas. The DIA and DARPA shall serve in an advisory capacity.

e. Other DoD Components and other agencies and individuals may be invited to participate as necessary, but will have no vote.

f. Technology transfer issues may be referred to the Subpanel by any member when the issue requires resolution by establishing a precedent for critical or sensitive technology or when intelligence or political information dictates a policy review for specified countries.

g. On issues not concerning the resolution of DoD positions on transfer cases, a two-thirds majority vote shall resolve any differences. When a two-thirds majority decision cannot be reached, the matter under consideration shall be referred to the DoD IT^2 Panel for disposition.

h. Issues concerning coordinated DoD recommendations on transfer cases shall be referred to the Subpanel only after an attempt has been made to resolve the differences at the working level or if a DoD position on a case must be issued within 15 working days and the differences have not been resolved.

i. In resolving differences concerning coordinated DoD recommendations on transfer cases, a unanimous vote is required to recommend approval of a proposed transfer. Appeals on the cases under consideration may be made by any DoD Component having a voting member. The chair shall refer the cases to the DoD IT^2 Panel for review.

j. The chair of the Subpanel A shall chair the DoD IT^2 Panel if the Panel chair and vice-chair are unable to attend the Panel meeting.

k. Subpanel A shall meet monthly and at other times subject to the call of the chair. When a specific transfer case is appealed to Subpanel A, the Subpanel shall meet to resolve the case within 10 working days.

l. Administrative support for Subpanel A shall be provided by the Office of the DASD(IETSP), OASD(ISP).

C. DOD IT^2 SUBPANEL B, RESEARCH AND DEVELOPMENT

1. Functions. The DoD IT^2 Subpanel B shall:

a. Address issues and resolve differences in the Department of Defense regarding technical standards and definitions and the dissemination and exchange of technical information.

b. Consider appeals on recommendations in technology transfer research cases.

c. As required, form working groups drawn from member organizations and agencies to address specific issues raised by the DoD IT^2 Panel, by member organizations or agencies, or as deemed appropriate by the chair to address high-priority technology transfer research cases.

2. Organization and Management

a. The chair shall be the Deputy Under Secretary of Defense for Research and Advanced Technology (DUSD(R&AT)), OUSDR&E.

b. The vice-chair shall be the DASD(IETSP), OASD(ISP).

c. Other members of Subpanel B shall be representatives from the ODUSD(P), USD(P); ODASD(IETSP), OASD(ISP); ODUSD(R&AT), OUSDR&E; the Assistant Secretaries of the Army (Research, Development, and Acquisition), the Navy (Research, Engineering, and Systems), and the Air Force (Research, Development, and Logistics); the DSAA; the DIA; DARPA; and the NSA.

d. Each member, excluding representatives of the DSAA, DIA, DARPA, and NSA, shall have one vote, and all voting members shall be polled on a decision. The DSAA shall vote on issues concerning security assistance. The DIA shall serve in an intelligence advisory capacity. DARPA shall vote on issues affecting fulfillment of DARPA's mission. The NSA shall vote on issues concerning its missions in cryptology (COMSEC and SIGINT), computer security, and EW.

e. Additional DoD Components and other agencies and individuals may be invited by the chair or vice-chair to participate as necessary, but will have no vote.

f. Issues may be referred to the Subpanel by any member, including representatives of the DSAA, DIA, DARPA, and NSA.

g. A two-thirds majority vote shall resolve differences. Any member voting on a particular issue may appeal a decision to the DoD IT^2 Panel.

h. Administrative support for Subpanel B shall be provided by the Office of the DUSD(R&AT), OUSDR&E.

i. The Subpanel shall meet monthly and at other times as determined by the chair. When a research technology transfer case is appealed to Subpanel B, the Subpanel shall meet within 10 working days to resolve the case.

DEFINITIONS

1. Critical Technology. Technologies that consist of (a) arrays of design and manufacturing know-how (including technical data); (b) keystone manufacturing, inspection, and test equipment; (c) keystone materials; and (d) goods accompanied by sophisticated operation, application, or maintenance know-how that would make a significant contribution to the military potential of any country or combination of countries and that may prove detrimental to the security of the United States (also referred to as militarily critical technology).

2. Goods. Any articles, materials, supplies, or manufactured products, including inspection and test equipment. The term excludes technical data.

3. Items of Intrinsic Military Utility. End items other than those identified in the "DoD Militarily Critical Technologies List" (reference (i)) whose transfer to potential adversaries shall be controlled for the following reasons:

a. The end product in question could significantly enhance the recipient's military or warmaking capability either because of its technology content or because of the quantity to be sold; or

b. The product could be analyzed to reveal U.S. system characteristics and thereby contribute to the development of countermeasures to equivalent U.S. equipment.

4. Keystone Equipment. Includes manufacturing, inspection, or test equipment and is the required equipment for the effective application of technical information and know-how. Keystone materials have the same significant application.

5. Know-how. Includes both the know-how of design and manufacturing and the know-how and related technical information that is needed to achieve a significant development, production, or use. The term know-how includes services, processes, procedures, specifications, design data and criteria, and testing techniques.

6. Militarily Critical Technology. See critical technology.

7. Munitions. Includes:

a. Arms, ammunition, and other implements of war.

b. Any property, installation, commodity, material equipment, supply, or goods used to make military items.

c. Any machinery, facility, tool, material, supply, or other item necessary for the manufacture, production, processing repair, servicing, storage, construction, transportation, operation, or use of any article listed above.

d. Technical data related to State Department munitions list items.

8. Services. Includes any service, test, inspection, repair, training, publication, technical or other assistance, or defense information used to furnish military assistance, including military education and training activities.

9. Strategic Trade Cases. Cases involving technology and goods that are dual-use in nature, that is, capable of being used either for legitimate civilian purposes or capable of being used or diverted to increase a nation's military potential.

10. Technical Data. Classified or unclassified information of any kind that can be used, or adapted for use, in the design, production, manufacture, repair, overhaul, processing, engineering, development, operation, maintenance, or reconstruction of goods or munitions; or any technology that advances the state of the art or establishes a new art in an area of significant military applicability in the United States. The data may be tangible, such as a model, prototype, blueprint, or an operating manual, or may be intangible, such as a technical service or oral or visual interactions.

11. Technology. The technical information and know-how that can be used to design, produce, manufacture, use, or reconstruct goods, including technical data and computer software. The term does not include the goods themselves.

12. Transfer Mechanisms. The means by which technology, goods, services, and munitions are transferred, including but not limited to:

a. Commercial and government sales.

b. Scientist, engineer, student, and academic exchanges.

c. Consulting agreements.

d. Licensing and other data exchange agreements.

e. Codevelopment and coproduction agreements.

f. Commercial proposals and associated business visitors.

g. Trade fairs, exhibits, and airshows.

h. Sales to third-party nations.

i. Multinational corporation transfers.

j. Foreign technical missions.

k. International programs (such as fusion, space, and high-energy).

l. International meetings and symposia on advanced technology.

m. Patents.

n. Clandestine or illegal acquisition of military or dual-use technology or equipment.

o. Dissemination of technical reports and technical data, whether published or by oral or visual release.

p. Dissemination of technical reports under DoD Directive 5400.7 (reference (q)).

q. Diversion or evasion of control procedures.

r. Smuggling.

s. Dummy corporations.

t. Acquiring an interest in U.S. industry, business, and other organizations.

Senator NUNN. The article further stated that International Security Policy used contract technical advisers to support policy views on switching, computers and microelectronics, even though technical advice had already been provided by the office of the Under Secretary of Defense for Research and Engineering.

Is that accurate? And if so, can you explain?

Dr. DELAUER. This may have happened at one point when they were short of personnel. You might ask Richard Perle.

Senator NUNN. We will be hearing from Mr. Perle next week.

Dr. DELAUER. The best I can understand on that case, they did ask for some contractor help and they got some. On the other hand, we in R&E have, on occasion, gotten help.

Senator NUNN. Why should they be getting all the technical advice when you are supposed to be providing that?

Dr. DELAUER. It is a question you have to ask him.

Senator NUNN. You can't explain it?

Dr. DELAUER. The technical judgment is still going to come from my office. They think that they can have technical opinions that they want to consider. I think it is a waste of effort, but if they tried, they still can't override the technical input put in by R&E because it has to go up our daisy chain of review and we won't let bad technical input happen. So, as a consequence of differences, they do have some problems. There is a difference, Senator, from a giving of opinion in a technical issue and some of the things they are doing generically. Cocom negotiations is one issue that is pretty involved and there is never going to be a list in Cocom that is going to say the following 4,000 items are prohibited. They are going to have generic classes that are going to have certain technical characteristics and, in some cases, to write that they need some technically trained people who might not necessarily be my people.

Senator NUNN. In the Aviation Week article you reportedly indicated you now want to have the licensing responsibility to be returned to Defense Research and Engineering, is that correct?

Dr. DELAUER. No; I didn't ask for that. The only thing that I have been advocating is implementation of the Corson report where DSAA comes back down to R&E. That is the acquisition side of it. They do a little bit more than that. They have to negotiate. But they are the ones that handle all the FMS cases.

Senator NUNN. You reportedly charged that Bryen and John R. Konfala of Bryen's office have been dictating DOD positions in Cocom negotiations. Is that correct?

Dr. DELAUER. That is one of the concerns I had. That is why we were participating more and you will see it in this policy that we have to participate in Cocom.

Senator NUNN. And you think that hopefully has been corrected now?

Dr. DELAUER. It has by the directive. Now we have to see who implements it. I am keeping a very, very sharp eye on the implementation of 2040.2.

Senator NUNN. When they were making these DOD positions in Cocom negotiations, do these people have high technical backgrounds?

Dr. DELAUER. Not anywhere near those of the people in R&E. I think they have some. I don't know what Steve Bryen's background is. He was over here on the Hill. You don't have any technical people over here, do you?

Senator NUNN. Let me close this up by getting your personal thought, not asking the Department of Defense's view or not speaking for anyone else in answering my question. In your personal view, what is the appropriate role of the Department of Defense in this overall area? Should we in Congress be looking to you for both policy judgments and technical judgments or what should we be looking to? If you would write the law, what would you write?

Dr. DELAUER. I would make sure that the Department of Defense would give to the final decisionmaker not only the best consideration of the technical implications of any technology transfer issue; but also an opinion in regard to the security implications and I think that is something else that has to be done.

Senator NUNN. I consider that within the broader framework when I use the word technical.

Dr. DELAUER. I think it is different. For instance, let me give you an example of one that just happened—whether or not we should transfer to an ally at this time the capability of being able to manufacture what is called smokeless propellant.

My view, depending on the situation, is that technically it is not a big industry. It is going to take time. People are eventually going to get to it. If for security reasons—and they may not be technical security reasons. For instance, we may want better defense relationships within the country we are talking about, all these sorts of things that the Secretary of Defense and the Services, represented by the Chairman of the Joint Chiefs, feel from a security military standpoint that we will be much better off if certain things could exist.

From my standpoint, even though you might argue that we don't want to transfer that technology, indeed we can engineer the technology transfer that would minimize the risk. There is always a risk assessment. That is why I kept arguing and I still do it, technology has a half life and there are times when you are convinced the risk is not that great and you have to take that risk for other than technical reasons.

From your view, technical reasons include the military impact or the consequences of doing this, and that is the Defense Department's job and we ought to continue to do it.

Senator NUNN. I agree with that. I had that in mind, too. What I am really getting at, do we really need, within the Department of Defense, two groups of people feeding in on all this: One, International Security Policy; the other, Research and Engineering, or should it be put under the control of one group?

Dr. DELAUER. My own view is you ought to keep it separate. Whether or not everybody is doing what they should be doing at different times, that is a different issue on the margin arguing back and forth and I have given you some argument. I think it is important that the Secretary of Defense still has two people who are worried about this problem. If he only got one person's view without hearing from the other side, then I think we would be on dangerous ground. The statement that you read from the publication was a case in point. The fact that I had a responsibility for reviewing that document prohibited the Secretary from signing it when I objected. He said: "I thought it was all taken care of." No, it wasn't all taken care of. Here is my view and he brought it back to us and he said: "You get me a document you people can agree to."

That was checks and balances where I think it was absolutely necessary to do the job and I think we ought to continue to have that kind of capability. If you don't do that, then, he can be captured to a point where he is not getting the best broad advice on these issues.

Senator NUNN. Could you capsulate for us your current procedure as you interpret it, what your office will be doing and what the office that is under Richard Perle would be doing?

Dr. DELAUER. They will be dealing with the State Department, Commerce Department, with foreign governments, embassies, for the purposes of settling the question of whether we have a shorable technology, or whether certain technology will be transferred in a particular way.

My organization will be responsible for the technical assessment that permits them to go have that conversation in the first place. Once that conversation is done, then the details of that—of the acquisition that results from that or the activity that results from that as it affects the product or the technology or the details, are handled by my people.

Senator NUNN. As to the effect on security you mentioned a while ago, you separated that from the technical assessment. Who will be responsible for assessing and giving the Secretary of Defense the assessment how this kind of transfer could affect our security?

Dr. DELAUER. Both of us.

Senator NUNN. That is a dual function?

Dr. DELAUER. And the military; they review this also.

Senator NUNN. Does that input go directly to the Secretary?

Dr. DELAUER. It does go directly to the Secretary.

Senator NUNN. Three prongs.

Dr. DELAUER. Also the problem we have with the military, it is hard for them to assess the risk, they tell you go or no-go. They normally don't have enough capability.

Senator NUNN. Who is going to assess the risk?

Dr. DELAUER. What we are trying to do is provide more support, technical support to JCS to the analysis end to see what kind of risk. We are using IDA to do that. Then the Secretary has to make the decision. We have done that in the propellent case. The Army and myself thought we ought to transfer it, felt it was better to do it. We would control it. The Navy, the JCS, and the ISP office thought we should not and it finally got on Will Taft's desk, he said no.

Senator NUNN. You think from a governmental point of view that process in that case worked properly?

Dr. DELAUER. Yes; it did, even though I didn't like the answer but it worked properly. It was coordinated and a decision was made. And I think that exists within the structure and if properly implemented should be able to work very, very well.

Senator NUNN. Do you think, looking at it from the Governmental point of view, that Defense should be given what some have said is virtually a veto over the final aspects. Once the Secretary makes his decision, the law apparently reads if the President overrides a Defense decision, that he has to explain to Congress. He has the right to override but we had a witness this morning that felt very strongly that Defense view should not be given that kind of disproportionate weight. How do you feel about that?

Dr. **DeLauer**. I am in the Defense Department. I am not too against having that kind of prerogative. I think it is not too bad. I think from a security standpcint, when I was in the industry and trying to peddle things around the world, I might have taken a different point of view. I don't think this is a hard position. When you start writing laws about the President making a decision, you have to administer. Now he is administering through the Security Council, my recollection is that with this new Export Administration Act activity going on in the Congress right now, with the arguments going back and forth about how stringent that act should be written, I think the President has taken on a view that there ought to be a coordination process below him where the divergent views are thrashed out and essentially a Cabinet level review is taken of the sticky cases and not have it exactly equal among equals when one guy is more equal than the other. But, I think you ought to ask that of my boss.

Senator **Nunn**. Than you very much, Dr. DeLauer. We appreciate your being here and we appreciate your comments. As we continue to go through these hearings, we may want to call you for your advice again.

Dr. **DeLauer**. Senator, I think these are important. I think if you try to get out of these hearings what is good and what is poor about the way we are doing business and accent the good and suggest how we can improve the process, I think we will be well-served.

If, on the other hand, all you are going to do is point out the disagreements and things, then I think we are not going to get any further. I want the technology transfer to or allies so they will make investments so we will be strong, that is my objective. I will do everything I can to make this happen at the same time keep it out of the hands of the opposition.

Senator **Nunn**. Thank you very much, we appreciate it.

Dr. Baker, I don't think you have been sworn.

Do you swear that the testimony you are about to give will be the truth, the whole truth, and nothing but the truth, so help you God?

Dr. **Baker**. Yes, sir, I do.

TESTIMONY OF DR. LARA H. BAKER, JR., OPERATIONAL SECURITY/SAFEGUARD DIVISION, LOS ALAMOS NATIONAL LABORATORY, UNIVERSITY OF CALIFORNIA

Senator **Nunn**. Dr. Baker, before I ask Dr. Brenner some other questions and then ask you some questions, do you have any opening statements you would like to make? We appreciate your being here and your continuous cooperation with the subcommittee in this area and other areas.

Dr. **Baker**. Thank you, Mr. Chairman.

My current job assignment at the Los Alamos National Laboratory is as a project manager responsible for the Department of Energy-sponsored computer security research and operations security research at the laboratory. In my current position, I am not actively involved with the export control community.

My work in the export control community started in 1975 when I was called in by the Department of Energy, then the Atomic Energy Commission, to advise them on a specific case involving a supercomputer. From 1975 to 1980, I served on various committees and technical task groups involving computer exports.

Early in 1980, I was asked by the Department of Defense to chair Technical Task Group–I, which had the responsibility for developing a draft position on Cocom item 1565, computers, for the 1982 Cocom list review. In late 1981, Mr. John Boidock of the U.S. Department of Commerce joined me as cochair. As this TTG met every 3 to 4 weeks, there was considerable staff work necessary. That work was managed by Mr. Duane Harder of the Los Alamos National Laboratory. All in all, TTG–I went through about 23 working drafts, each about 70 single-spaced pages, before completing its efforts in March 1982.

As a follow-on to my work as chairman of TTG–I, I was asked to attend the next Cocom negotiations. At the Cocom list-review meetings in October–November 1982, Dr. Ronald A. Finkler, Institute for Defense Analyses, had the U.S. technical lead for item 1565, assisted by Mr. Harder and me. During the computer working group meeting at Cocom in April–May 1983, I had the U.S. technical lead for most of the item 1565, again assisted by Mr. Harder.

Senator NUNN. Thank you, Dr. Baker. I am going to direct these questions to each of you individually but if either of you want to comment as we get into areas you are interested in, I hope you will feel free to do so.

Do either of you have a time problem here? I anticipate about another 30 or 40 minutes.

Dr. BAKER. No problem, sir.

Dr. BRENNER. No problem.

Senator NUNN. Dr. Brenner, it is my understanding that United States controls the export and reexport of all computer technology by use of the validated license approach, is that correct?

Dr. BRENNER. That is correct, to the best of my knowledge.

Senator NUNN. Are there flaws in this approach that you have observed?

Dr. BRENNER. Well, the process is very complicated and the approach is fine. The system fails to work well because of the details of the mechanism and the levels at which the limits have been set. When one sets the limits too low, one then is emersed in a large number of cases. Dr. DeLauer told you earlier that there were 9,000 cases floating through the system and there is not enough staff to handle that load. The same is true for other agencies as well.

I believe if one is more relaxed on where one sets the limits, one would be able to focus attention on the more important items.

Senator NUNN. The Cocom list of review process begins, as I understand it, with meeting of the technical advisory committees managed by Commerce. These technical advisory committees are comprised of technical representatives from industry and Government. How do you rate the effectiveness of these technical advisory committees?

Dr. **Brenner**. The technical advisory committees [TAC's] serve as a good forum between industry and the Government. My observations over the years are that sometimes they do and sometimes they don't work very well. Industry discusses the problems and presents their position. Frequently their positions are self-serving, sometimes not so self-serving, but after their comments are made the mechanism of passing these positions into the TTG's for their activities doesn't work well. I would guess the right way for that to happen would be that the Commerce representative would be the agent through which the information is passed from the TAC's to the TTG's. Frequently Commerce isn't technically strong enough so the mechanism doesn't work very well.

Another problem is that technical expertise at appropriate levels is very difficult to come by. It is very expensive and even the high technology companies are reluctant to assign their most competent technical people to such a task. The task is tedious and requires long drawn out discussions to air all of the issues. Most of these technical people are better off, as far as the companies and the individuals themselves are concerned, in making new products.

Even when industry does bring their best technical people into this process, which they occasionally do for particular problems, Commerce doesn't seem able to bring the information well into the TTG process.

Senator **Nunn**. You have been involved in the export control issue, particularly Cocom for a good many years. We heard testimony this morning that Cocom has not officially revised a computer list since 1974 and, of course, we all know there has been a revolution and a quantum jump in the whole technology computer field. How has this delayed revision by Cocom in the computer field affected our national security, as you see it?

Dr. **Brenner**. In the years during the mid seventies, lack of action in revising the regulations had the effect of actually inhibiting transfer of technology. That is to say, industry moved along, the half life Mr. DeLauer told you about, and much of the controls was set much lower than would have been appropriate if one had renegotiated the controls, say, in the second half of the seventies decade.

That situation has changed in some sense because there are a number of items, such as software and microcomputer items which are not adequately handled in the existing controls. Those items which ought to be controlled at some level, but which are not properly addressed, we are allowing to leak at a higher level than if we would update the rules.

Senator **Nunn**. Dr. Baker.

Dr. **Baker**. While Cocom is set up principally to unify and coordinate export controls among the member nations, when something isn't explicitedly specified in the list, there are interpretation problems. Thus, export policy can vary from nation to nation. Software is the best example where that exists now. The control of software is implicit in the list now and in some cases, some particular kinds of software, is explicit.

Part of the renegotiation process is the attempt to include software explicitedly as an item and to work with it. That will result in significantly better controls than we have right now. The renegotiation, as several people have said, has not been completed.

Senator **Nunn**. You have read about the various disputes that have taken place and continue to take place between the governmental agencies involved in this process. Do either of you have any suggestions as to how these disputes could be resolved in an expeditious fashion?

Dr. **Brenner**. Well, we have heard about some of the internal DOD problems. Certainly each agency internally ought to find a mechanism of better coordinating their technical and their policy people. The larger the agency the more difficult that problem becomes. When the agencies come to an impasse, as happens quite often, an appropriate technically competent person from a higher level, from the NSC or some other appropriate office of the Executive, might become involved to resolve the problem.

Senator **Nunn**. Dr. Baker, do you have any suggestion?

Dr. **Baker**. When I testified in 1982, I suggested a technical assessment center to solve some of the technical problems. In looking at that concept over the last couple of years, I still think it is a good idea.

Senator **Nunn**. That would be in lieu of Defense or would that be technical contribution that would flow through Defense for other observations?

Dr. **Baker**. The intent I had when I originally suggested it would be a technical contribution that would flow through any involved agency, act more as a technically honest broker rather than for, or on behalf of, any specific agency. It would be intended to supplement what is currently done in Defense and in Energy to allow them to concentrate more fully on the specific parts of the task that they are best qualified for, the military application or the nuclear application.

Senator **Nunn**. It would not be in lieu of what you are doing but it would be an assistance to them?

Dr. **Baker**. That was the intent of the concept. In essence a technically honest broker kind of arrangement.

Senator **Nunn**. You heard the testimony of Defense on the dispute in the Defense Department and how it involves both International Security Policy and Research and Engineering now having basically a dual role here. How do you react to the past and the present, so to speak? Do you have any observation, Dr. Brenner?

Dr. **Brenner**. Again, I am probably not in a position to make a cogent remark on Defense, but I believe Dr. Delauer's comments were particularly cogent. I think it is too bad they lost that battle.

Senator **Nunn**. You see it as R&E having lost that battle?

Dr. **Brenner**. That is my observation, yes.

Senator **Nunn**. What then would you do if you were the Secretary of Defense? How would you structure the Defense input into the overall process?

Dr. **Brenner**. I would accept the merging of the two separate lines of command, but I would certainly put a stronger command in DeLauer's office and not in the Policy office.

Senator NUNN. By that you mean you would make it the dominant rather than an equal partnership?

Dr. BRENNER. I would do it that way.

Senator NUNN. You don't perceive it as an equal partnership?

Dr. BRENNER. Not up until 2 or 3 months ago which is the last time I was able to observe the situation first hand.

Senator NUNN. But this new directive Dr. DeLauer described as a basically cochaired equal partnership——

Dr. BRENNER. We should watch it develop. I have reservations as to how well it will work. If it does, I would be pleased.

Senator NUNN. You are saying before this had not been the case?

Dr. BRENNER. That is correct.

Senator NUNN. And you basically think people in charge do not have the technical capability that you need to be in charge of this, is that right?

Dr. BRENNER. That is correct.

Let me make an additional comment on that concerning yet another technical assessment center within Defense. The policy people went out and contracted for yet another set of technical evaluations. I believe one doesn't help the problem by setting up an additional center of technical advice. I would much rather see a better mechanism for amalgamating policy and technical assessment than opening up yet another independent technical assessment center.

Senator NUNN. You wouldn't agree with Dr. Baker's suggestion on that?

Dr. BRENNER. That is correct.

Senator NUNN. Dr. Baker, do you have any observation about Defense and what you heard this morning where they have been and where they are now? I am not asking you to speak for anyone other than yourself.

Dr. BAKER. I would only make the observation when I was sitting at the table at Cocom in the negotiations we continually heard the theme on any given issue: What is the technical rationale for that? How does it affect security? Other nation's representatives at the list review level, the working group level, were not at all interested in why policy required one thing or another, they wanted purely a technical document which would then be——

Senator NUNN. At Cocom?

Dr. BAKER. Yes, sir. Which would then have overlaid whatever policy decisions were made by the member government, but for purposes of negotiations, other delegations, I believe, unanimously, felt we should leave policy out of it and talk about technical matters. They were not discussing internal U.S. arrangements, what should be what in the Department of Defense, and so forth, but what should be in the proposal. They wanted purely technical reasons, and no policy.

Senator NUNN. Does that mean that our Cocom hand would be strengthened if our judgment was based on the technical aspects rather than the philosophical aspects?

Dr. BAKER. I think our hand would definitely be strengthened, yes, sir.

Senator NUNN. Under the present arrangements, do either of you, or both of you, feel that we have a proper balance between the

Department of Defense and the other agencies or do you see the balance tilting too far one way than the other?

Dr. **Brenner**. I believe the discussion about the item 10(g) in the Export Administration Act focuses on a serious problem. I believe that clause paralyzes the system or at least strengthens the Defense Department's position to such an extent that they all but have a veto.

Dr. **Baker**. It is my observation, if you are talking to people in the export control communities and other agencies other than Defense, that the Defense objections on any given case do indeed override and their is considerable perception that those objections occur more frequently then most other agencies think is appropriate.

Senator **Nunn**. Is it the perception that those objections are based on what, ideology or technology or what is the perception?

Dr. **Baker**. The perception I get from talking to people is that they feel that the objections are based on ideology.

Senator **Nunn**. Dr. Brenner.

Dr. **Brenner**. I believe the policy is set first based on ideology and then an attempt is made to rationalize the position with technology, even if the position is unsupportable.

Senator **Nunn**. Does the present export control and transfer of technology policy of the U.S. Government have an affect on the academic community, Dr. Brenner?

Dr. **Brenner**. I agree with the comments that Richard DeLauer made concerning the Corson report and I would like to add my thoughts on that subject.

My observations are that recent attempts to control the communication among scientists and engineers at conference and in university classrooms by excluding Eastern bloc citizens from unclassified forums on high technology subjects compromises the mechanisms that have led to the United States maintaining such a high technical leadership. The reason the United States does so well in these matters is that the more readily information is transmitted among our scientists and engineers in academia, the national laboratories, and industry, the greater is the rate of progress and innovation in our high-technology industries. For the production of end product, where U.S. genius excels, industry protects itself from loss of its proprietary knowledge and skill far better than can the Government. It is the lack of freedom of information interchange in the bloc countries that inhibits their abilities in high-technology end product. If the Government persists in interferring in these matters at the level in which it is apparently trying to do at the current time, I fear that just the mechanism that makes us so strong will be stifled.

On this matter, the National Academy of Sciences had commissioned the Study on Scientific Communication and National Security, the Corson report, which reported its findings and submitted it to the government in September 1982. The conclusions of the report accepted responsible concerns regarding unwanted transfer of U.S. technology, but also addressed the costs and benefits of controls. Of a number of conclusions of the report, one was that relative to other mechanisms of technology transfer open scientific communication does not constitute a serious channel. The report also recommended the development of procedures to insure mutual appreciation of the concerns of Government and science. In January 1984, a followup staff report to the National Academy of Sciences concludes that: "The Government has not found it possible to act in a manner compatible with the major Corson report principles." I do believe that if we are overzealous in the protection over the leakage of technology, that we will stifle the one mechanism by which we have become so technologically powerful.

Senator NUNN. What was the name of the report you are referring to?

Dr. BRENNER. The first report is the Corson report and the second report is a followup with the same formal title, "The Study on Scientific Communciation and National Security."

Senator NUNN. Who was the principal author of that second report?

Dr. BRENNER. Two staff members and I don't have their names.

Senator NUNN. You are saying you agree in essence with both reports?

Dr. BRENNER. That is correct.

Senator NUNN. Was that the same report Dr. DeLauer was referring to when he said that he agreed with most of that?

Dr. BRENNER. That was the report, right.

Senator NUNN. Who was Corson?

Dr. BRENNER. A former president of Cornell University, a member of the National Academy of Sciences.

Senator NUNN. Was that strictly extragovernmental or was the Government a participant?

Dr. BRENNER. The Government participated. There were many Government witnesses including briefings from the appropriate national security agencies.

Senator NUNN. Dr. Baker, you were referring a little while ago that you participated in the Technical Task Group and attended the Cocom negotiations.

Dr. BAKER. Yes, sir. May I elaborate? The Technical Task Group is a U.S. Government organization, some members from the Government, some members from industry. Its purpose is to gather technical expertise available from Government agencies on a nonattribution basis while trying to develop a position on particular items, which in this case was computers, for interagency evaluation.

I also participated in the computer working group at Cocom but that was substantially after the Technical Task Group had finished.

Senator NUNN. Was the Technical Task Group able to formulate an initial technical position for the computer item that was agreed upon by people from the various agencies for the fall of 1972 Cocom session?

Dr. BAKER. As of February 1982, which was about the time we completed, there was general consensus on most of the parts of the computer items by most of the people who normally attend those TTG meetings. When that proposal got submitted for interagency review, Defense chose to reject it. There was then a complete redrafting and reformatting of the item but many of the parameters we had selected were still included in the reformatted item.

Senator **Nunn**. Were redrafts within the purview of your technical draft group?

Dr. **Baker**. Yes, and no. The subject of redrafting and reformatting did come up in the TTG several times and we had proposed some reformatting and so forth. This was not accepted by Defense and they specifically enjoined me to stay with the current form of the items, the item that was put in in 1974. I should emphasize they enjoined me to stay with the 1974 format, but not the 1974 numbers.

Senator **Nunn**. Was this an agreed upon interagency position?

Dr. **Baker**. It turned out, after it went to interagency review, I believe all the agencies except Defense were willing to accept it.

Senator **Nunn**. Give us your view about any problems in this Technical Task Group area in this particular case or others.

Dr. **Baker**. Dr. Brenner's opening statement mentioned some of the problems with the Technical Task Groups involving the various levels of expertise available to people on there, involving lack of ability to get guidance from higher up in the agency, involving vacillations on positions. I would comment that people on the task groups are there as individual technical experts, they are not there to formally commit their agencies. There is a general agreement that people will, in fact, say what they think their agencies will accept. As a result, we tend to pay a lot of attention to each agency's position. We came up with a consensus view, with dissenting views in brackets. In essence we agree on this format and we agree on these numbers except for example, two members would like different numbers. We sent them the proposal up for interagency review. Another problem I would like to reemphasize is the fact that this was a long process, over a 3-year process. About every 3 weeks we held meetings. You are talking about taking roughly 1 year of any individual's time away from their agency. The people are valuable, they didn't get to stay for the all the meetings.

Senator **Nunn**. When you were involved in this, what would be the relationship with your Technical Task Group and someone like William Root, whom we heard from this morning from the State Department. Was there close coordination or did you report your results to our negotiators? How does it work?

Dr. **Baker**. The Technical Task Group generates a U.S. position. Their opinion is the draft U.S. position. Often the State Department people would attend the TTG, not as technical members, but more to tell us that "this will be hard to negotiate if you do it that way", "can you do it that way", and we went around and around. They gave us their input. The report of the technical task force went to the chairman of the organization called Working Group I, which happened to be a State Department individual, and that is where the State Department gets involved heavily. There was as close a coordination as was needed during this activity and it turns out, because of interest in this matter, I believe, there was quite close coordination for this particular TTG.

Senator **Nunn**. Were you here when Mr. Root testified this morning?

Dr. **Baker**. Yes, sir.

Senator **Nunn**. Do you have any comments one way or another about his testimony as viewed from your perspective? Do you generally disagree with him or agree with him or what do you feel?

Dr. **Baker**. Mr. Chairman, I am not an expert in governmental organization. I find the difficulties he mentioned in the negotiations to be entirely consistent with my experience in Paris. I spent 8 weeks, which is not a long time there, for two separate sets of negotiations. These negotiations are long and arduous. I didn't put in near as much time as Mr. Root did; but the team I was on did work 70-plus hours a week. There were serious frustrations involved because we didn't seem to get anywhere; we didn't have any flexibility to work with; it was a problem. I generally support the areas of Mr. Root's testimony that I am competent to evaluate.

Senator **Nunn**. Do you think we are approaching this too much from a ideological point of view or do you think we have the right balance between technical and ideology? What is your observation?

Dr. **Baker**. I am inclined to give you an answer much like Dr. DeLauer's. As a technical type, I would prefer to see a greater emphasis on the technical issues; but I well realize that in our society, from the way our Government is organized, policy is, in fact, an overriding concern and whether it should be or not is outside my field of expertise.

Senator **Nunn**. How about the perception among our allies, just in your private conversations, what is that perception about America's position?

Dr. **Baker**. I found the Cocom negotiations that I attended fascinating in many ways because the format at the table, at the negotiations, was much like formal discussions in the legislative bodies here. People are very polite, very careful not to step on anyone's toes; they state their positions and that is that. Privately, people are much more open. The perception I got was that the United States was trying to feather its own nest, trying to allow our own exports and restrict everybody else. I got the impression there was a significant lack of trust in the U.S. ability or inclination to equitably deal in export matters.

Senator **Nunn**. Do either of you have any other suggestions you would like to make now concerning this overall area? Dr. Brenner.

Dr. **Brenner**. From a legislative point of view, I would hope that the suggestions made by Dr. DeLauer will in fact come to pass. If the Defense Department is able to develop a more coherent point of view and will in fact find a mechanism to help Government meld the policy and technical issues, we would have a better way of performing the export control function.

Senator **Nunn**. Thank you very much. Dr. Baker.

Dr. **Baker**. I would like to make one further comment about Mr. Root as an individual, rather than specifically about his testimony. I have worked with him since about 1976. I know him to be a man of utmost integrity, intelligence, and courtesy. I think he is a very competent diplomat. It was a pleasure to work with him. I think his departure from Government is a significant loss to the U.S. export control community. Thank you.

Dr. **Brenner**. I would like to concur in those remarks regarding Mr. Root.

Senator **Nunn**. Thank you very much. We appreciate both of you appearing.

Tomorrow morning we will have a hearing in this room at 10 a.m., and we will hear from John Walker, Assistant Secretary for Enforcement and Operation. We will also hear from representatives of the U.S. Department of Commerce, and representatives from the industry sector. We will recess until tomorrow morning at 10 a.m.

[Whereupon, at 1:20 p.m., the subcommittee was recessed, to reconvene Tuesday, April 3, 1984, at 10:07 a.m.]

TRANSFER OF TECHNOLOGY

TUESDAY, APRIL 3, 1984

U.S. Senate,
Permanent Subcommittee on Investigations
of the Committee on Governmental Affairs,
Washington, DC.

The subcommittee met at 10:07 a.m., pursuant to call, in room SD-342, Dirksen Senate Office Building, under authority of Senate Resolution 354, section 13, agreed to March 2, 1984, Hon. Sam Nunn (acting chairman of the subcommittee) presiding.

Members of the subcommittee present: Senator Sam Nunn, Democrat, Georgia; and Senator Lawton Chiles, Democrat, Florida.

Members of the professional staff present: S. Cass Weiland, chief counsel; Eleanore J. Hill, chief counsel to the minority; Katherine Bidden, chief clerk; Kitty Dias, executive secretary to the chief counsel of the minority; David Glendinning, staff counsel to the majority; John Sopko, assistant counsel, minority; Glenn Fry and Leonard Willis, minority staff investigators.

[Member of the subcommittee at the time of convening: Senator Sam Nunn.]

Senator Nunn. The Permanent Subcommittee on Investigations will be in order.

[Letter of authority follows:]

U.S. Senate,
Committee on Governmental Affairs,
Senate Permanent Subcommittee on Investigations
Washington, DC.

Pursuant to rule 5 of the Rules of Procedure of the Senate Permanent Subcommittee on Investigations of the Committee on Governmental Affairs, permission is hereby granted for the chairman, or any member of the subcommittee as designated by the chairman, to conduct open and/or executive hearings without a quorum of two members for the administration of oaths and taking testimony in connection with hearings on Transfer of Technology, to be held on April 2, 3, 11, and 12, 1984.

William V. Roth, Jr.,
Chairman.

Sam Nunn,
Ranking Minority Member.

Senator Nunn. Our first witness this morning will be Mr. John Walker, Assistant Secretary for Enforcement and Operations, Department of the Treasury. We will also hear from Mr. William T. Archey, Acting Assistant Secretary for Trade Administration, Department of Commerce, and then we will hear later from Mr. Larry Sumney, who is executive director of Semiconductor Research Corp.

Gentlemen, we are glad to have you this morning. I would suggest anyone who is going to testify—Mr. Walker; is this Mr. Archey?

Mr. ARCHEY. Yes, and Mr. Wu, Deputy Assistant Secretary.

Senator NUNN. If all of you would stand, we swear in all our witnesses before the subcommittee.

Do you swear the testimony you will give before the subcommittee will be the truth, the whole truth, and nothing but the truth, so help you God?

Mr. WALKER. I do.

Mr. ARCHEY. I do.

Mr. WU. I do.

Senator NUNN. Thank you. Mr. Walker, we will start with you. I know you have a prepared statement. We look forward to hearing from you.

TESTIMONY OF JOHN M. WALKER, JR., ASSISTANT SECRETARY FOR ENFORCEMENT AND OPERATIONS, DEPARTMENT OF THE TREASURY; AND WILLIAM T. ARCHEY, ACTING ASSISTANT SECRETARY FOR TRADE ADMINISTRATION, DEPARTMENT OF COMMERCE, ACCOMPANIED BY THEODORE W. WU, DEPUTY ASSISTANT SECRETARY OF COMMERCE FOR EXPORT ENFORCEMENT

Mr. WALKER. Thank you very much, Mr. Chairman. I would ask the prepared statement to made a part of the record at this time. I would like to make a presentation that is somewhat shorter than the prepared statement, but I believe covers the essential points.

Senator NUNN. Without objection, your entire statement will be made a part of the record.[1]

Mr. WALKER. Mr. Chairman, I am pleased to have the opportunity to appear before this subcommittee on the subject of controlling the transfer of militarily significant technology from the West to the Soviet bloc.

Preventing the further erosion of this country's defense capability by diversions of exports of critical technology is one of the highest enforcement priorities of this Administration. A successful export enforcement program is absolutely essential in maintaining the technological advantage that is a cornerstone of the U.S. defense capability.

As you know, Mr. Chairman, a recent Export Administration Act case involving the attempted diversion of high speed, state-of-the-art computer systems has once again highlighted the threat posed by Soviet efforts to reap the benefits of our expensive defense-related technological research and development. At the same time, questions have been raised concerning the overall effectiveness of our Government's multiagency program to enforce export controls.

From the Treasury's perspective, existing weaknesses in this program are of grave concern. In my testimony today, I will identify what Treasury considers these weaknesses to be, and I will report on the steps that are being taken to remedy them. In addition, I will discuss the working relationships of the Federal agencies involved and address the matter of coordination with private industry.

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[1] See p. 251 for the prepared statement of John M. Walker, Jr.

Turning to Operation Exodus, at the outset, I believe it would be useful for me to first describe the Export Control Enforcement Program of the U.S. Customs Service. The Customs program, Operation Exodus, was initiated in late 1981 as a concentrated effort to enforce both the Export Administration Act and the Arms Export Control Act.

Increasing the effectiveness of Customs inspection and control of export cargo was the first priority of Operation Exodus, and this aspect of the program is now a highly effective deterrent to the two most efficient means of violating the export control laws, namely, out-and-out smuggling and the use of false documentation.

Our success in this effort is illustrated by the Exodus seizures to date. This program has accomplished 3,046 seizures for a total value of $187 million. Significantly, Customs is continually improving its ability to conduct its inspections at the border in a way that minimizes interference with legitimate export trade.

During the first year of Operation Exodus, 30 percent of those shipments detained at the border were eventually seized for violations of the act or regulations under it. During fiscal year 1983, the second year of the program, this seizure to detention ratio rose to approximately 40 percent, and at present, the ratio has reached 50 percent, and we expect it will continue to improve in the months ahead.

Because smuggling and false documentation are far riskier now than previously, the Soviet and Eastern bloc agents and those who seek to profit by assisting them or acting in concert with them have shifted to more sophisticated methods. Today, organizations conspiring to violate our export controls are most likely to do so by diverting shipments to a third country.

The regular modus operandi of these groups is to obtain a license showing an end use in a nonbloc country, sometimes a Cocom member. Dummy corporations are typically used to avoid the identification of violators.

The *VAX* case involving a highly organized syndicate headed by Richard Mueller, a fugitive from justice now, is a striking example of how extensively this method has been used. As a result of this case, Customs has uncovered a complex network of corporations in several countries and identified a number of Mueller's major operatives. I will return to this case later and discuss its implications in further detail.

As diversion has become the chief means of overcoming the effect of U.S. export control laws, Operation Exodus has shifted its principal focus from inspections to investigations, both domestic and foreign. Customs has a full complement of trained experienced investigative personnel and support staff to conduct export control cases both at home and abroad. Customs has 292 full-time domestic personnel and 32 overseas personnel dedicated to Operation Exodus.

Export enforcement is also a high priority among Customs' entire staff of 900 special agents and 6,000 inspectors, control officers, and import specialists.

Mr. Chairman, because overseas diversion is central to most conspiracies to violate our country's export controls, Customs' foreign presence has been essential to its successes to date. The reciprocal assistance which U.S. Customs routinely provides to various foreign enforcement agencies allows Exodus to benefit from extensive foreign cooperation and support in its export control investigations. Customs attachés have been in place for many years and have developed long-standing and harmonious relationships with almost all of the free world customs and police services. We have recently increased the staff from several Customs attaché offices abroad and have opened new foreign offices for the specific purpose of handling export control investigations.

In addition, Exodus relies heavily on Customs' mutual assistance agreements with counterpart Customs Services in France, Germany, Austria, and Mexico. Italy and Canada are under consideration for similar mutual assistance agreements, and other reciprocal agreements have been reached between U.S. Customs and the Customs Services of the United Kingdom and Canada.

Turning to Exodus' accomplishments, since the inception of Operation Exodus in October 1981, the program has produced 346 cases accepted for prosecution; 235 indictments; 302 arrests; and 207 convictions.

One of the first significant Exodus investigations was the *Land Resources Management* case——

Senator **Nunn** [interposing]. Mr. Walker, may I ask you a question at that point? We have been through, for years, the whole question of statistics in law enforcement, and I don't know if there are any good answers. I know that in narcotics cases, for a long time, we were going through the statistics business looking at the number of arrests, so forth, and there was no real mechanism by which judgments were made about the seriousness of the offense. That gave rise to, basically, an awful lot of street-type enforcements on minor cases from the point of view of the incentive system, and the law enforcement's arena on drugs being basically to make arrests, get indictments, so forth, without regard to the quality of the case and how important particular defendants were.

We have hopefully evolved into a system of classifying violations in the narcotics area so that we can give incentives to agents to go after top quality cases that involve the big guys, so to speak, and even though those cases result many times in less arrests, and less indictments, the ones you do make are much more far reaching.

With that as a way of background, do you have, or are you working on any similar kind of classification in the export control area? I fear if we do not, we will get back into the same kind of statistical gain which can produce the wrong incentives.

So when you look at these 346 cases accepted for prosecution; 235 indictments; 302 arrests; 207 convictions, is that broken down so that we have some idea of the quality of the cases and the significance of the violations?

Mr. **Walker**. Mr. Chairman, the Justice Department does rank the significance of these cases, and they have concluded that during the period between January 1, 1981, through February 6, 1984, the Customs Service—there were a total of 31 significant cases prosecuted by them.

Senator **Nunn**. In what period of time?

Mr. **Walker**. That was from January 1, 1981, through February 6, 1984. Of those cases, there were 31 cases that were presented by the Customs Service, 2 presented by the Department of Commerce and 8 were presented jointly, for a total of 31 cases.

Senator **Nunn**. You have got here in your paragraph, since October 1981, you have had 346 cases accepted for prosecution and you are saying from January 1981, there were 31 of those cases the Justice Department felt were serious cases from the Customs Service; is that right?

Mr. **Walker**. Yes; just a minute.

Senator **Nunn**. You can have any assistance you want on this.

[Witness conferring.]

Mr. **Walker**. I am sorry, Mr. Chairman, your question was?

Senator **Nunn**. Basically, it seems to me that what you are saying is, the Justice Department has said that 31 of those cases, although the time frame does not exactly coincide, 31 of the cases you have sent to the Justice Department out of 346 were considered serious violations; is that right?

Mr. **Walker**. That is correct.

Senator **Nunn**. Do they have a definition of seriousness? Do we know how they arrive at that?

Mr. **Walker**. I can only surmise, I don't think I can give you an authoritative answer on that.

Senator **Nunn**. Do you have any idea of the criteria used by the Justice Department?

[Witness conferring.]

Mr. **Walker**. I am advised, Mr. Chairman, that they are cases that are determined not so much by the level of the violator so much as the impact on national security, the kind of equipment that is the subject matter of the case.

Senator **Nunn**. That seems to be a valid definition. I would like to get from the Justice Department, if you would do that, their definition of what is serious and what they rate as nonserious and perhaps you could comment on that.

[Letter from John M. Walker, Jr., and information as requested above, subsequently received by the subcommittee, follows:]

Department of the Treasury,
Washington, DC, May 11, 1984.

Hon. Sam Nunn,
Ranking Minority Member, Permanent Subcommittee on Investigations, Committee on Governmental Affairs, U.S. Senate, Washington, DC.

Dear Senator Nunn: Thank you for your letter of May 7, 1984, requesting information for the record of the hearing held April 3, 1984, by the Permanent Subcommittee on Investigations, on the subject of export control enforcement. Attached is a response to your inquiry, based on information obtained from the Export Control Enforcement Unit, Internal Security Section, Criminal Division, U.S. Department of Justice.

Please let me know if I can be of further assistance to you in any way.

Sincerely,

John M. Walker, Jr.,
Assistant Secretary
(Enforcement and Operations).

Attachments.

Question. How does the Justice Department determine which export control cases to include on its list of serious cases?

Answer. The Export Control Enforcement Unit of the Internal Security Section, Criminal Division, U.S. Department of Justice, includes on its list only those cases (1) on which indictments have been returned *and* (2) which the Export Control Enforcement Unit, in its discretion, considers to have an impact on the national security, foreign relations, or neutrality of the United States.

The Export Control Enforcement Unit receives information on export control cases through communication with the U.S. Attorneys' offices, the U.S. Customs Service, and the Office of Export Enforcement of the Department of Commerce.

Senator NUNN. I think it is important as we move into this enforcement area that we start off knowing where we are going. I think it is extremely important that we not give agents out there in the field incentives to basically shy away from tougher cases that may take a lot longer to make at the expense of long term, instead going for the number of statistics.

Three hundred forty-six cases and 31 related to serious offenses, that is a 10-percent ratio, as I read it, although, again, the time does not exactly overlap. Do you have any comment on that? Does that seem to be appropriate in terms of the way the Customs agents operate?

Mr. WALKER. Yes, I would think that would be appropriate because a lot of these cases were developed starting off with inspections at the border. They may not have been necessarily significant violations in the sense of an extremely sensitive piece of equipment that we could see having tremendous national security implications, and yet it is a clear violation of the existing controls.

So that would seem to be appropriate. There are a number of cases that I can refer to, and I will be referring to some of them in my testimony, that we consider major, significant cases, cases which have national strategic importance, and those are the ones that our Office of Strategic Investigations at Customs is really focusing on.

I can assure you that the appropriate credit is given to the agents who work these complicated cases that take a number of years.

If I might just digress a minute, we unsealed an indictment yesterday, that is, the Department of Justice unsealed an indictment yesterday that was obtained on March 6 against 12 defendants in Boston involving the exportation of 18 DEC computer systems. These were the PDP-11's, and these computer systems were valued at a total of $2 million. Fourteen of these systems, unfortunately, we believe, made it to the Soviet Union.

Senator NUNN. Fourteen out of how many?

Mr. WALKER. Out of 18. The last four systems, which were the systems involved in the specific investigations which were conducted in 1982-83, were stopped. The reason the indictment was unsealed yesterday is because we were able to apprehend Leslie Klein, who is a major violator of the export control laws. He was picked up in Miami and is currently in custody at this time and, of course, his arrest necessitated the unsealing of the indictment.

Senator NUNN. How long has this case gone on? How long has this been under investigation? Is this a couple of years?

Mr. WALKER. The case has been under investigation since 1982; the indictments were attained in March 1984. That is a complex case. It involved numerous dummy corporations. The modus operandi that was utilized in that case involved exportations through

Canada to West Germany into Switzerland, and then diversions on to the Soviet Union from those countries.

As you know, Mr. Chairman, for export control purposes, Canada in some ways is like a 51st State. We have no licensing requirement between the United States and Canada. So we are dependent when Canada is involved upon their administration of their export control laws and their enforcement efforts.

Senator **NUNN**. In other words, no matter how much work we do here in this country, unless the Canadians have a parallel effort and a similar effort, then we basically—that is a weak link in the chain unless it is comparable to ours; is that what you are saying?

Mr. **WALKER**. That is a correct analysis, and I think this case will prompt us to ask certain questions—how does Canada apply its licensing criteria? How is enforcement conducted in Canada? Are they self-starting and self-initiated enforcement actions? Or are they mostly reactive enforcement actions?

As you know, Mr. Chairman, until Operation Exodus and until the efforts of this Administration back in 1981 and 1982, we really were less active in our enforcement effort. We would want to check into the Canadian situation to see exactly how they are approaching their enforcement problem.

Senator **NUNN**. Mr. Walker, when were these 14—are they actually hardware you are talking about, hardware-type computers?

Mr. **WALKER**. That is correct, they were PDP-11's, which were at that time state of the art computer systems produced by the Digital Equipment Corp. They were exported during the years 1978 through 1982.

Senator **NUNN**. When would they actually have been received in the Soviet Union, during this 4-year timeframe?

Mr. **WALKER**. That is correct.

Senator **NUNN**. What is the military significance of that?

Mr. **WALKER**. They basically are kinds of computers that can be used to engineer microprocessing capabilities. They would be used to develop a microprocessing capability in the Soviet Union.

Senator **NUNN**. Under what provision of law were these computers regulated that actually got to the Soviet Union? Were they military equipment or dual-use equipment?

Mr. **WALKER**. These would be dual-use items.

Senator **NUNN**. They were not licensed for export?

Mr. **WALKER**. No, they were not. They were exported to Canada without licenses.

Senator **NUNN**. But they were on the restricted list?

Mr. **WALKER**. That is correct. They were on the Commodity Control List, which is issued by Commerce. But then licenses would be required for their reexport from Canada; Commerce licenses would be required under the law, but those were not obtained.

Senator **NUNN**. That is where the illegality came in?

Mr. **WALKER**. That is correct.

Senator **NUNN**. So they went to Canada legally, but it was the movement out of Canada?

Mr. **WALKER**. That is correct, except if they were exported to Canada with the intent of reexporting them elsewhere, then they were not exported to Canada legally.

Senator Nunn. Was that part of the indictment that that intent was present when they left this country?

Mr. Walker. That is correct. There was an overall scheme here to export to the Soviet Union.

Senator Nunn. Go ahead, I interrupted you.

Mr. Walker. One of the first significant Exodus investigations was the *Land Resources Management* case in 1982, in which Customs prevented the diversion of an airborne, multispectral scanner that was bound for the Soviet Union by way of Mexico and Switzerland.

In 1983, another significant case for Customs arose from an investigation centered in Denver, CO, into violations of the Export Administration Act and Arms Export Control Act, in which Customs prevented the diversion of a sophisticated seismograph and laser system, both bound for Moscow.

With regard to the *VAX* case mentioned earlier, this investigation has probably been the most significant one undertaken by Customs since Operation Exodus began. It has broken up the largest known criminal technology organization in history. The Customs investigation began on November 3, 1983, when the Customs attaché in Bonn received information that a VAX 11/782, a high power, state-of-the-art supercomputer with numerous military applications, was en route to the Soviet Union from South Africa aboard a Swedish vessel. Customs learned that the shipment was consigned to a front company in Sweden controlled by Richard Mueller. Mueller is well known to Customs as a diverter of strategic technology to the Soviets and a fugitive from the 1979 indictment charging violations of the Export Administration Act.

Working in concert with German customs, U.S. Customs seized three containers of VAX computer hardware and software in Hamburg, Germany, thus preventing delivery to the Soviets. From later information developed in the case, Customs was able to work with Swedish authorities to arrange for the seizure in Sweden of four additional containers of VAX equipment that the Mueller organization was also attempting to divert. Both seizures, seven containers in all, weighing in excess of 25 tons, have now been returned to the United States for evidence.

Richard Mueller controlled Microelectronics Research Institute, Ltd., MRI, of South Africa and has used this corporation in his diversion attempts. The Customs investigation, which is still ongoing, has discovered that Mueller's control of MRI was disguised by his control of at least eight other front corporations—two in Switzerland and at least six in South Africa. In all, four of Mueller's associates have been arrested and face trial in West Germany or Sweden.

Besides disruption of the Mueller organization, the case has produced substantial leads for further investigations of international diversions. It has also demonstrated that cooperation with foreign law enforcement and exchange of intelligence with foreign law enforcement agencies are absolutely essential to success in diversion cases.

Mr. Chairman, I now would like to turn to what we perceive as certain shortcomings in the enforcement of national security export controls.

Mr. Chairman, while the *VAX* case is a major success in U.S. enforcement of national security controls, it points up the importance of the President's decision to improve the current multiagency effort to control shipments of critical technology. In my view, there are two shortcomings in the current EAA enforcement program. These issues have been of concern to Treasury since long before the *VAX* case. That case has, however, served to highlight them.

First, we can no longer tolerate the conduct of an enforcement program in which information is not fully shared among the Federal agencies involved. Information possessed by Commerce in 1980 indicated that Semitronics AG, one of Mueller's Swiss-front companies, was attempting to procure an ion implantation device, used in semiconductor manufacturing, through Microelectronics Research Institute, or MRI, of South Africa. This information alone strongly suggests the possibility of diversion. However, in 1981, when Commerce began an inquiry into MRI, Commerce learned that MRI was also controlled by Mueller. Although Customs had been aware of Mueller as a known diverter since 1974, none of this other information was known to Customs until November 1983, when Customs began its own investigation based on the information received by the Customs attaché in Bonn.

Even more unfortunate for our national security is that between May 19, 1980, and July 5, 1983, 16 export licenses were approved by Commerce with MRI as the approved end-user. They covered national-security-controlled computer and semiconductor production equipment valued at over $7 million. Customs was unaware of these licensing determinations until November 1983. Customs now has information that during 1983, while seven containers were interdicted as I have described, unfortunately, eight containers of VAX equipment and supplies were successfully diverted to Moscow by the Mueller organization.

This past history of Mueller's violations underscores the importance of full sharing of licensing information by Commerce and Customs. The President's recent decisions on EAA enforcement contemplate a full computerized network of licensing information.

Customs is currently seeking to teach an agreement with Commerce to carry this out. It is also critical that defense have the same access to this information for it to fulfill its proper role in the licensing process.

Senator NUNN. May I ask at this point, Mr. Archey, could you comment on this from the Commerce Department point of view? These are rather serious allegations of lack of informational exchange and implicitly lack of cooperation on the part of Commerce.

Mr. ARCHEY. First of all, Senator——

Senator NUNN [interposing]. We will come back, Mr. Walker. I just interrupt you temporarily.

Mr. ARCHEY. First, Senator, I would like to comment a little bit about some of the assertions about the MRI. As the Commissioner of Customs in a closed hearing about a month ago indicated, the information we received, which is very sensitive source information, in May 1980 was information which was received by the Treasury Department and by the Defense Department. It turns out, at least what I know now, the Treasury Department did not pass that information on to Customs Service.

Senator **Nunn**. You are saying it wasn't Commerce Department's fault then, Treasury Department got this information and didn't tell——

Mr. **Archey** [interposing]. Defense, Treasury, and Commerce all received this information on the same day.

Senator **Nunn**. Mr. Walker, what do you say to that?

Mr. **Walker**. We understand that there was a cable that was copied to the Office of the Assistant Secretary for International Affairs at Treasury, who doesn't have any enforcement responsibility in this area. He would have been the one to try and recognize that this was a significant document and then pass it on. He did not so recognize it as being significant at that time. That is the first point.

Senator **Nunn**. Is that his fault or is that the fault of not having enough correlation within the Treasury Department or is that the fault of whoever sent this information not knowing who to send it to? If you are looking for accountability now——

Mr. **Walker** [interposing]. I think probably today it would not have happened because I think the information would have gone directly to the Customs Service.

Basically, the mistake, if any, was it went to the wrong office in the Treasury Department, an office more concerned with international banking problems than with the enforcement of export controls.

Senator **Nunn**. Did they just sit on it?

Mr. **Walker**. I don't think they recognized the significance so it wasn't a question of sitting on something they thought was important, they didn't perceive the importance of the case.

Senator **Nunn**. So your statement is then that Treasury made a mistake in the overall Treasury Department by not passing it on to Customs, but even with this mistake by Treasury, the Commerce Department should have given the information to Customs themselves?

Mr. **Walker**. Yes, if all 17 departments of Government had found out the information, that wouldn't justify the failure to communicate between the law enforcement arms of Treasury and Commerce.

Senator **Nunn**. What do you say to that, Mr. Archey?

Mr. **Archey**. As you may know, Senator, I was formerly Deputy Commissioner of Customs, and I was Acting Commissioner for almost a year so I have a little bit of understanding on both sides.

Senator **Nunn**. That is good, we can get a good objective opinion. How does the ledger come out, in your expert opinion?

Mr. **Archey**. I think that, first of all, on the issue of the intelligence gathering, given the sensitive nature and source of this, it is not the kind of thing I would expect the Treasury Department or any other department to be providing to us independently from the originating agency which provided the intelligence. That is one of the points that John makes, which is absolutely correct. I don't think it would happen today, but it wouldn't happen today for a number of reasons.

First of all, I think the intelligence gathering aspect dealing with strategic controls has made a quantum leap in the last 4 years in terms of targeting, in terms of the kind of intelligence information that all enforcement agencies and agencies dealing with licensing need.

I think the second point is that we have to look at the context of what was going on in 1980 because I would agree with the statement John made earlier in his testimony which was in 1980–81, even in 1982, the enforcement apparatus of the U.S. Government in export control areas was very reactive, and I think there is a tendency to lose sight of the fact that until late 1981, we are—really beginning in 1982—the U.S. Government, as an entity, was not seriously dealing with the issue of export enforcement and export controls. We went through a period from 1968–69, through almost 1980 in which we saw major erosion of the regulations guiding export controls and, No. 2 is, the notion if you take a look, Senator, I think your committee did this in May 1982, and in your report of November 1982, that from a period of 1970 to 1980, Defense, Treasury, Commerce, as a whole, the three major agencies involved, you saw lack of emphasis in the program, declining resources, declining attention.

The reason I say that is because, having been on both sides of this, I get a little bent out of shape that it is Commerce that was not the one that was paying enough attention. I would submit to you, and I think the record is clear, that the entire U.S. Government wasn't paying attention to this matter.

I think the other points I would like to make, too, goes to the issue of it: we had a public hearing yesterday in which the Commerce Department made no bones about the fact mistakes were made in handling the *MRI* case. When the information came in in May 1980, we had 12 people, 12 investigators, of whom most are not here today. No. 2 is, when the information was received, because of the extremely sensitive source, the information was copied down by an agent and translated, if you will, to in fact disguise the source. The agent who had that case left the department and went to the State Department. The case was not passed on to the director of what was then called the Compliance Division for almost a year—for a year, in fact.

When a new agent was assigned, it, he did not have the original source information but rather had the translation of that information by the original case agent, which indicated that MRI, the company itself, was the source of the information. He, therefore, thought they were a good guy. He opened the case. We then pursued a number of prelicense checks, all of which were positive. The case was closed.

The major error that was made then which wouldn't be made now, and I will get to that in my testimony, deals with the fact that no intelligence index, investigation index file, was kept. Thus, when we reopened the case in 1982, the case agent did not know about the previous information in 1980 and 1981, and, therefore, did not make that correlation.

There are a number of other factors that, on the *MRI* case, in terms of presenting how we did it, I would submit to you that the translation of the intelligence information in 1980 was the fundamental problem because it had a mushroom effect on what was followed up afterward.

In terms of what the agents knew and how Commerce handled the case, in terms of the responsible approach, I think we handled it well from the point of view we not only did prelicense checks, we did several post-shipment checks—the Consulate General Office—which indicated this was a company of reliability, they had several financial reports by the company indicating reliable company, and sent us cables stating: "this company is a reliable recipient of high technology from the United States" on several occasions.

But I think the other point, though, in terms of how we went about it was that we also had information, even as late as April 1983, and again in June of 1983, from a company that had sold several millions of dollars of various semiconductor equipment. Their engineer who had visited MRI, specifically noted that there was a very powerful DEC computer on line operating for the purpose of making semiconductors; that they had clean rooms being readied for production, antistatic tile, all these kinds of things indicating a quite legitimate operation, which comported with other reports that we had.

So I am saying to you, and I am not going to hedge this over, in terms of what happened in early 1981, mistakes were made. They compounded later events. In terms of could they happen now, I don't think so. For example, we have now a computerized intelligence index that has all of the case histories. We also have a dual or a double-licensing screen. We have 4,300 names on our computer. We went to automated licensing of all applications. We now screen that on the computer when the application comes in, but there may be 90, 120 days processing of it, depending on where it is going, whether there is going to be Defense review. Before it goes to the validation section of the Department of Commerce for licensing, it goes back through an automated screen so that if any information has come in in the interim, from when the application first came in, it will be caught on the outbound screen. That was not in place in 1980, 1981, or 1982.

Senator NUNN. How about the information exchange between Commerce and Customs? Are you confident that there are any lapses there? Any gaps there have been corrected and now even though information may be sensitive that it would be conveyed from Commerce to Customs?

Mr. ARCHEY. I don't think we would hold back any information that would be useful. I think the President's decision 2 weeks ago specifically states that information sharing should be improved between Commerce and Customs. I think it cuts both ways.

No. 2 is that we, for example, up until just a few months ago were providing to Customs a list of applications, I think it was about 3,000 a week of all license applications that were accepted, rejected or returned. Customs said they didn't need the information. I am saying, we have been providing systematically the information as requested. I am not saying we can't improve the information flow, and we are having a series of meetings to implement the MOU to, in fact, do that.

Senator NUNN. Mr. Walker, are you satisfied the lapses in communication have now been corrected?

Mr. WALKER. I can't say they have all been corrected. I can say that the process is moving right now to correct them, and that many of them have been corrected. We would expect, since the President has decided that there would be a dual enforcement role in this area, that Customs would have no less access to Commerce information than Commerce's own Office of Export Enforcement. There should be absolutely no difference between the access to Commerce licensing information between these two enforcement entities if we are going to conduct——

Senator **Nunn** [interposing]. Do you agree with that, Mr. Archey?

Mr. **Archey**. I agree with that, but not totally because of this issue: we are the only agency under the statute that has the protection or is required to safeguard 12(c), business confidential, proprietary information. In 1981, the Secretary of Commerce granted for all investigative matters relating to the Exodus Program a blanket authorization to give that information to the Customs Service, which we have been doing since then.

The only concern we have, and my Secretary has, is with respect to the business confidential information that is not related to an ongoing enforcement activity; we are going to be very careful about dissemination of that. As you may know, Senator, we sit on a data base of information about basically the entire world markets of major U.S. companies, who they sell to, the nature of the products, the prices, who their distributors are overseas, et cetera. The business community and some our own people, I would submit as well, believe this is as important and sensitive as, in fact, classified information.

What we think we can do is work it out to both agencies' satisfaction, but I would not think there should be a blanket dissemination of that 12(c) information, of that business proprietary information, without some need.

Senator **Nunn**. I understood Mr. Walker's testimony was that the President had directed that that be done.

Mr. **Archey**. The President's statement says, the directive that came from the National Security Council says that information related to ongoing investigations, and then in the further interpretation of it, says to improve the information sharing. It does not say specifically what that is.

Mr. **Walker**. Mr. Chairman, as you can see, the negotiations are ongoing.

Senator **Nunn**. I can see they are not concluded.

Mr. **Walker**. They are not concluded. I would say simply, as I will repeat to Mr. Archey as we negotiate in private on this, the Attorney General has already reached the 12(c) issue and decided there is no legal impediment to Customs receiving this information. In fact, the Attorney General ruled that while there is a confidentiality requirement here vis-a-vis the Government and the public, it doesn't extend between two agencies of the Government, and so I think there is no legal issue here.

I am concerned that we are seeing a policy decision here which is of national security importance being governed by the need, if you will—that Commerce feels very often—to promote exports. You know, there is going to be this tension in the Commerce Department as this enforcement program goes forward, between Commerce's traditional role of promoting exports and their newer role of enforcing this act. I think this is perhaps an example of it.

Senator NUNN. Mr. Archey is shaking his head, for the record. I want to make sure the reporter gets that. Maybe we ought to let him speak to it.

Mr. ARCHEY. It seems every time I testify on the Hill, this issue comes up. It did yesterday and does every time. I would like to pretty much say what I said yesterday. I think the issue that the export licensing, that is, Export Administration and Export Enforcement Program within the Commerce Department had conflicting priorities because it is in the Commerce Department, which is also responsible for trade promotion, does not hold up. It doesn't hold up for the reason—for a number of reasons.

First of all, when Secretary Baldrige and Under Secretary Olmer came into office in 1981, they immediately saw that the Export Administration and particularly the Export Enforcement activities had been vastly understaffed and a number of problems existed.

Your subcommittee in May of 1982, very strongly addressed those issues. Your subcommittee was extremely critical of how the Commerce Department's enforcement department ran.

Senator NUNN. We made it abundantly clear we weren't criticizing one administration.

Mr. ARCHEY. That is correct. I think that was a very important part of that report because it is really one of the very few reports in the hearings that dealt with somewhat the historical indices of this whole program and problem.

In 1982, Secretary Baldrige made a decision to establish an Office of Export Enforcement and to considerably increase its resources and to have a Deputy Assistant Secretary, Ted Wu, sitting on my left, to head that.

No. 2 is, in 1981, the Office of Export Administration, which is licensing, we had 131 people. There are 236 people in there now, a 70 percent increase in overall resources, a fivefold increase in its computerization funding.

In terms of export enforcement, in 1981, there were 39 people total. Pending the final budget resolution, we hope to have 171 by June, which is about a 450 percent increase. Furthermore, most of those increases, Senator, came not from increased appropriations, they came from internal reprogramming from other parts of the International Trade Administration of the Commerce Department, that is the trade promotion area.

The last point, I would make is that I have been in this job for 20 months, and I have said this publicly, at no point in time have I ever been asked by a superior to make a decision on a licensing issue that dealt with the fact that we want to do it because we are into trade promotion.

I think that the department, in terms of what it has done in the last 2 years, and my testimony indicates it has come a long way, as has Customs, as has the rest of the Government in dealing with this problem; but I think that one of the things that the Commerce Department does not hold its head in shame about is that we do deal with the business community because I would submit to you, Senator, that an effective export control program requires the intimate involvement of the business community.

Senator **Nunn**. I agree with that. That also was one of our strong recommendations 2 year ago. We have to have a dialog between the business community and the Government. We have to have a continuous dialog because I would say a large percentage of the basic safeguarding of our technology has to lie not with the Government itself, no matter how effective or efficient we get, but with the business community. Particularly in the dual-use technology area that doesn't have any kind of exclusive military application.

Mr. **Archey**. We opened 435 investigations in the last 18 months on the basis of tips from the business community. Thirty-eight percent of all of our enforcement cases are on the basis of information that comes to us from the business community.

And the other aspect of it is, with respect to the overall control program in the regulations, the business community, with very few exceptions and none that I know of in the major business area, there is no quibbling that there should be an export control program. The issue comes down to, and the dialog comes down to, what should be controlled and how.

Mr. **Walker**. Mr. Chairman, I would concur wholeheartedly in the views Mr. Archey has just expressed, and I know you share, Mr. Chairman, that the assistance of the business community is vital to an enforcement program here. I would point out that the Denver case that I referred to earlier in my testimony was initiated by information that had been supplied unsolicited from the business community. That resulted in a major success in our export control program.

I would caution, however, when we get information from the business community that it is very important it be acted upon promptly, that its full significance be appreciated, and that we fully utilize the resource of the private sector here. This is another lesson, I believe, that we can draw from the *VAX* case.

In November of 1982, after the Office of Export Enforcement at Commerce was fully in place and operating, the company that had delivered computer systems and technology equipment to MRI found that MRI was not taking advantage of some of the benefits under the contract, particularly maintenance services and various engineering services that were available, and this was an unusual development to the supplier of the equipment. They wrote to the Commerce Department at that time notifying them of that fact and, in fact, at that time, a second investigation was opened by the Office of Export Enforcement into what ultimately became the *VAX* case, and the circumstances surrounding it.

It resulted essentially in no change in the process by the Commerce Department to continue on licensing various elements of the shipments to MRI. So I think it is important when this information is received that it be acted upon, that it be communicated to the licensing side for appropriate reponse. This was, in effect, a second investigation by the Commerce Department that occurred during the period prior to Customs involvement in November 1983.

Senator **Nunn**. Why don't you go ahead, Mr. Walker, and complete your statement, and then we will turn to Mr. Archey and then get into some questions.

Mr. **Walker**. Thank you very much, Mr. Chairman.

Mr. Chairman, a second problem highlighted by the *VAX* case, and I know one the subcommittee will reach later on in these hearings, is then need for a broader Defense Department role in reviewing certain licensing applications, both the individual validated licenses and for distibution licenses.

Recently, as you are aware, Mr. Chairman, the President approved such a larger Defense Department role in principle and directed that the Defense and Commerce Departments reach agreement on ways to implement it. This agreement has been reached and will be commented on by other witnesses who are direct participants in the agreement during the rest of these hearings.

Mr. Chairman, turning to the question of working relationships with the other Government agencies involved, we have, of course, our principal working relationships with the Department of Defense and the Department of Commerce in the enforcement of the Export Administration Act.

I would like to say at the outset, Mr. Chairman, that Treasury considers full cooperation among Federal agencies to be absolutely essential to an effective enforcement program, and we fully endorse the President's recent directive that all of the involved agencies work together to protect our Nation's critical technology.

The Customs Service today enjoys an excellent working relationship with the Department of Defense. DOD support has been invaluable to us in many ways, including identifying the acquisition priorities of the Soviet bloc, providing advice and delivering expert testimony in court cases and also identifying seized materials.

With regard to the Commerce Department, Treasury and Customs have placed and are placing a high priority on improving our working relationships. It is no secret in the past that our departments have had disagreements on policy and operational matters. Consistent with the President's directive that all departments work together to guard our critical technology, we are vigorously working to reach a settlement of our differences. I have directed Customs personnel to give their full cooperation to Commerce at every opportunity.

Specifically, Customs intends to continue its policy of consultation with Congress on every EAA investigation and every arms export case in which Commerce has an interest.

Regarding investigations in foreign countries, Customs is making every effeort to implement the Memorandum of Understanding signed by Treasury and Commerce on January 16, 1984, and reaffirmed by the President in his recent decisions.

As you know, Mr. Chairman, this Memoradum of Understanding would allow both Customs and the Commerce Department to continue to conduct Export Administration Act investigations abroad. It establishes as a general principle that Customs is to be the liaison with foreign customs and other foreign law enforcement agencies with respect to Export Administration Act investigations.

There are, however, exceptions for investigations conducted by Commerce in six countries—Austria, Belgium, India, Japan, Sweden, and Turkey. In these countries, Commerce may conduct liaison directly with law enforcement agencies other than customs services.

In such countries, all of which are significant from a diversion standpoint, both agencies in conducting Export Administration Act investigations may communicate directly with noncustoms foreign law enforcement authorities. However, the MOU requires that Customs and Commerce keep each other fully informed regarding these investigations.

Finally, touching upon a subject that has been addressed already briefly in these hearings today is the question of coordination with private industry. With respect to coordination with private industry, Treasury and Customs recognize that no export control enforcement programs can succeed without the full support of the business community. Ever since Exodus began, Commissioner von Raab and I have been most gratified to see the high level of support and cooperation that U.S. manufacturers have demonstrated for our program.

Both Commissioner von Raab and I made a concerted effort to communicate the goals of Exodus, to seek industry cooperation and to keep U.S. business fully informed on ways in which they can be partners with us in preventing the flow of critical technology to the Soviet bloc.

There is one final matter, Mr. Chairman, that has to be addressed, and that is the impact of Exodus on legitimate trade. As the Export Administration Act has come up for renewal, there have been statements, particularly in support of the House bill, that Operation Exodus interferes with our country's vital export trade. Mr. Chairman, I believe that such statements are irresponsible and ignore the facts and that they can only be politically motivated.

Bureau of the Census statistics indicate that approximately 8 million export shipments leave the United States every year. In fiscal year 1983, Operation Exodus detained a total of 3,620 shipments. This represents less than one-twentieth of 1 percent of the total.

With regard to delays in legitimate shipments, Customs refers all EAA detentions to Commerce within 24 hours. Commerce's average response time is 5½ days. Customs then releases all shipments within 24 hours of notification by Commerce that they are properly licensed.

In summary, Mr. Chairman, Operation Exodus has made substantial progress and we can be proud of our record to date, but there is much to be done within the Executive Branch to be truly effective in applying export controls. The President's decisions fully recognize this need and provide for the following:

There must be complete sharing of information, particularly licensing information, among Commerce, Customs and DOD; and DOD must have a broader role in the licensing process, in the review of both individual and distribution licenses.

President Reagan has addressed these needs and strongly endorsed these improvements. It now remains for those of us in the responsible departments to carry them out. Only when this is done can we say that we are meeting the challenge to our national security posed by the flow of critical technology to the Soviet bloc.

Mr. Chairman, that concludes my formal testimony, and I will be happy to answer any questions you or any other members of the committee might have.

Senator NUNN. Thank you, Mr. Walker, for your enlightening testimony. Mr. Archey.

Mr. ARCHEY. I am pleased to appear today to discuss the Memorandum of Understanding which Mr. Walker just alluded to between Commerce and Treasury and to also discuss the multilateral export control efforts within the Cocom community.

I am not going to spend a great deal of time discussing the MOU because I think Mr. Walker has amply handled that issue. I would say, however, the MOU was signed on January 16, 1984, signed by Lionel Olmer, Under Secretary of Commerce, and Mr. Walker, Assistant Secretary for Enforcement Operations.

Two weeks ago, the President personally endorsed the MOU and further concluded that Customs and Commerce bring in more complementary assets to the enforcement of the EAA.

I would say in terms of the implementation of it, there has been four meetings at the Deputy Assistant Secretary level. We have begun an exchange list of open cases under investigation, exchange of cable traffic. There has been a cable that went to U.S. foreign posts that had the MOU as part of it, and I would also say without question and without reservation, Commerce is firmly committed to the faithful implementation of the MOU. We believe, in fact, that a good faith and vigorous execution of the agreement will lead to a more effective overall enforcement effort on behalf of the entire U.S. Government.

As the President has pointed out, both Commerce and Customs bring important complementary strengths to export enforcement. Commerce has been enforcing the EAA since 1949. Its Office of Export Enforcement is a single-mission agency whose sole responsibility and function is the enforcement of the Export Administration Act.

Furthermore, Commerce has under one roof, both licensing and enforcement functions. This symbiotic relationship benefits both the licensing experts and the enforcement agents in meeting their responsibilities under the act. U.S. Customs, on the other hand, brings its size, geographic dispersion and inspection force to export control enforcement. Commerce and Customs together can do far more than either can do alone.

Though the MOU does not deal with all aspects of EAA enforcement, we certainly think it is going to lead to a closer relationship between Commerce and Customs. This cooperation will increase efficiency and provide a much more effective government response to the threat to our national security posed by the illegal exportation of critical technology.

Mr. Chairman, I think we have done a lot to improve our enforcement office. I think we have done a lot since your committee's report of November of 1982, and I think it would be appropriate if I can go quickly through some of the things that happened in that time period.

Today OEE has over 45 experienced criminal investigators and 20 intelligence analysts/support personnel, in addition to some 30 other staff personnel. In September 1982, new field offices were opened in Los Angeles and San Francisco. The existing New York field staff and the Washington headquarters staff have further been strengthened.

At the specific request of the American embassies in Sweden and Austria, an OEE investigator has been detailed to each of those embassies to provide export control and enforcement support.

To support this effort, Commerce increased the enforcement budget from $1.8 million for fiscal year 1981 to $3.6 million for fiscal year 1983. Plans for six new field offices within the United States have been completed. The additional expansion is awaiting congressional approval. If approved, we will have 99 investigators, 24 intelligence analysts and 49 support personnel by the end of this fiscal year.

During our staff expansion, emphasis has been placed on maintaining the highest calibre of professional investigators through the hiring of only experienced, tested criminal investigators.

We have also designed and implemented specialized strategic export enforcement training for our special agents. This formal advanced professional training is in addition to the special agents' basic Federal law enforcement training received by all Federal agents at the Federal Law Enforcement Training Center.

I also note, Senator, that was one of the key points your report raised, the quality of the training and what were the plans for future training. I think we have more than fulfilled the concern that you raised in that report.

Senator **NUNN**. That is welcomed news.

Mr. **ARCHEY**. The imposed intelligence operations; OEE's intelligence function is a key component of the Department's strategic trade enforcement program. OEE's intelligence division uses intelligence collected and processed by the intelligence community and other agencies, as well as by Commerce itself. The staff has been tripled and automated data processing systems are being used to process and analyze the application of export control intelligence.

In conjunction with the export licensing arm, the Office of Export Administration, OEE has developed and implemented an automated licensing screen. We now have the names of over 4,300 suspected companies and individuals. All license applications are screened twice, first upon initial receipt and, second, immediately prior to the actual issuance of a license. This last step ensures the most current listing on the screen is applied prior to the issuance.

With these increased resources, we have been able to respond more fully to the licensing side's need for information necessary to prevent the issuance of export licenses in situations where the contemplated export poses a high situations where the contemplated export poses a high diversion risk.

During the last 16 months of operations, Commerce has initiated 622 prelicense checks and 55 postshipment verification inquiries. OEA rejected 78 export license applications amounting to more than $62 million of controlled commodities on OEE's recommendations which, in turn, were based on adverse prelicense or postshipment findings or sensitive intelligence and implicated probable risk to national security.

The automated licensing screen and other improvements enable us to dramatically increase the number of license applications receiving enforcement scrutiny. For example, for the first 3 months of 1984, the monthly average number of applications reviewed by OEE has increased 184 percent compared to the average for the previous year.

To make even more effective use of the intelligence and exporting information available to Commerce, OEE and OEA have formed a joint intelligence analytical team to analyze this information and guide licensing and enforcement activities.

I would like to depart for just a moment from my prepared statement to explain both these issues because I think they are important. Under the MOU, most shipment checks remain the purview of the Commerce Department. I would say to you until about 18 months ago, really in the last year, not too many people saw that as being important. We will, as in the first 6 months, Senator, of this year, do more prelicense checks than we did all last year. What is the importance of that?

What we are doing is we are starting to discover as an individual license company comes in, consignee—and I am talking for the most part applications going to Western Europe—we are discovering that the company that is listed as the recipient of the proposed export doesn't exist. The company that is listed as the recipient is a store-front operation; there is no known financial information on the company or we find out that the consignee, the recipient of the product is, in fact, on our enforcement screen either because of prior investigation or information from the intelligence community.

I say that because I think that there are some people who say, look, why should you bother with licenses going to Western Europe? My answer to that is that the issue remains, the primary diversion organizations that we know of still remain in Western Europe, and we also see that the predominence of trade, heavily in the high technology area, is with Western Europe.

We think that doing the prelicensing checks the way we have been doing them, and the numbers showing more and more rejections because, in fact, the end user is not legitimate, that is a very important enforcement tool for this reason: At least from the point of view of the Government knowing it, the commodity doesn't leave the country. To me, the most effective enforcement program of all is keeping it from going, and we think that is a very important factor.

The second thing is, at my direction 3 months ago, for the first time we are starting to harness and to show the importance of the relationship between enforcement and licensing. I have established a joint analytic group, primarily engineers, targeting the five highest technologies on the Commodity Control List, the highest technologies of all the 187 listed, controlled items. We are going back and looking at historical information, looking at, in fact, commodity patterns, country patterns, consignee patterns, and even profiles of original equipment manufacturers. And it is interesting to note that we have come up with about five, or six, or seven targets on the basis of just that analysis independent of what the intelligence community had adverse information on.

We think we are on to something that for the first time truly harvests in a synergistic way, if you will, for lack of a better term, the techniques, or talents, and expertise of our engineering and licensing people, and our investigators.

Another point I would like to talk about in terms of the interagency coordination is that Commerce has entered into a memorandum of understanding with the FBI, DIA, CIA, and the U.S. Customs Service which establishes procedures for coordination, cooperation, and information exchange relating to strategic export controls.

We are also in the process of finalizing an MOU with the National Security Agency. I made that point because your report also addressed the problem of our relationship with other agencies and receipt of information. All of those have been done on the basis of signed MOU's with all of these organizations.

Finally, OEE performance. In fiscal year 1983, OEE referred 37 Export Administration cases to the Justice Department for possible criminal prosecution, compared to 16 case referrals for the entire 3-year period preceding 1983. The convictions of seven EAA violators in 1983 resulted from OEE investigative action stands in marked contrast to the same number of convictions obtained during the entire 3-year period preceding fiscal year 1983.

Thus far in the first 6 months of fiscal year 1984, OEE has referred 28 cases to the Justice Department and indictments have been obtained against 12 defendants. Five defendants have been convicted.

At present, OEE is pursuing approximately 755 cases of possible export violations. Many of these investigations, like those cases that have already been prosecuted, concern elaborate and complicated diversion schemes and criminal conspiracies involving suspects both here and abroad.

I would depart from my point because you raised the question earlier to Mr. Walker on quality.

Senator NUNN. Do you have a way of judging that?

Mr. ARCHEY. We have now in the last 6 months changed considerably the enforcement strategy. I think we have gone from being reactive to being much more proactive; namely, we have, which other agencies don't have, the responsibility for implementing national security controls and foreign policy controls, controls, for example, against Libya, against countries themselves; they may be both on the basis of national security and foreign policy. The primary priority is to the national security.

But within the national security universe, what we have done is we have taken the top seven CCL's commodities, technologies——

Senator NUNN. What is CCL?

Mr. ARCHEY. Commodity Control List. For example, you ask the question of the PDP-1134's—they are under 1565, which is computer parts. We are looking at those. We are looking at semiconductor equipment. There are a few others I don't want to mention what we are looking into.

What we are doing is we know from information that is no longer classified, is fairly well known, we have a fairly good idea of what are those technologies and commodities the Soviets want. These are primarily the ones we are targeting. That means we are also going to be targeting the companies that sell.

Senator NUNN. Are you getting that information from Defense or the intelligence community as to the targeted number?

Mr. ARCHEY. The Soviet targets we are getting from the intelligence community.

Senator NUNN. Has that greatly improved, that type of intelligence?

Mr. ARCHEY. Absolutely. It has only been about 2 years they established an actual formal mechanism within the intelligence community.

Senator NUNN. They were just beginning that when we had our last hearings. I think that may be in the long run the most vitally important part of this whole procedure to give the agencies an idea of what the Soviets really need and what is most critical. I am convinced that the more we try to control everything, the less we will be able to control anything.

Mr. ARCHEY. It is a good point, Senator, because we have 187 CCL's under control. That constitutes hundreds of thousands of products. If you are able to concentrate on what are the ones that have the greatest strategic significance, I think the ability to focus your enforcement resources, both Mr. Walker's and the Commerce Department's, is much greater.

You also can focus the intelligence-gathering apparatus itself in a much more refined way, and I think we are really seeing the outgrowth, the fruits of that approach now.

What I am saying is we are taking it further in terms of how we pursue investigations. We are targeting those kinds of technologies, the companies, and the countries receiving them. We discovered something, for example, through this exercise. We are starting to discover, particularly in the computer area, original equipment manufacturers overseas; these are ones that make a value added to a product, primarily computers. They add something to it—software—they incorporate it into a manufacturing process. We are discovering a lot of the original-equipment manufacturers don't make any value added; that a lot of the original-equipment manufacturers do nothing but resell the equipment.

We are also talking to the business community because we are establishing, within the next month or two, a profile of original-equipment manufacturers, which ones look like if they do this, certain profiles, like Customs uses on people coming in who may be carrying dope, which can, in fact, better focus our enforcement efforts. This is something we want to share with the Customs Service, and with other agencies, because we think it is going to be a benefit. The major benefit is going to be with the business community because we are going to suggest to the business community, use this profile and, in fact, if the company doesn't look like they comport with this profile, let us know. You ought to at least have some questions before you go and sell, or even come in for a license, and we think we are going to get that cooperation.

The other aspect I would like to mention is that the other enforcement activities in fiscal year 1983 led to the initiation of administrative actions affecting 70 separate parties in the United States and overseas. These administrative measures were in the form of temporary denial orders and final orders denying export privileges and the imposition of civil fines.

Commerce's unique ability to take these administrative actions is a potent enforcement weapon for preventing sensitive U.S.-origin goods from falling into the hands of known or suspected diverters, particularly those outside the U.S. jurisdiction and beyond the reach of the American criminal process.

I would like to note, again, a point in your report was just briefly mentioned a couple years ago. The Commerce Department has an enormous weapon in its hands. We can deny a company overseas access to U.S. products. We are using that. We want to invite other agencies in the Government to provide us information that we can deny other parties who rightfully should be denied.

We have a case in a country—there are sensitive negotiations going on now—that we denied access to U.S. products last year to a very large company in another country. The result of that is that country's hurting. That country, which we don't think has had very good enforcement controls, or even legislation, has recently changed some of its regulations, and laws, and is interested in pursuing it even further, in part because they feel that this type of sanction imposed against them is extremely hurtful to their economy.

Senator NUNN. That was against a company or a country?

Mr. ARCHEY. It was against a company, but the country itself has interceded. We think this should not be used haphazardly because it is a very, very powerful weapon, and we think we have had a good track record on it, but it is one we can use more.

Senator NUNN. That means they can't buy anything from the United States; is that right?

Mr. ARCHEY. That is correct. Under OEE's cargo-inspection program, our five OEE inspectors conducted 8,912 cargo examinations in fiscal year 1983 resulting in the administrative seizure of 238 shipment valued at approximately $5.4 million. During this same period as a result of the enforcement screening of applications I previously alluded to, we selectively reviewed 5,743 export-license applications to identify potential suspect transactions. Those applications were scrutinized in-house for possible indicia of potential diversion or other illegal disposition of U.S.-origin commodities or technology.

Soon after its inception, OEE embarked on a major public awareness campaign. In 16 months, we have made presentations to 1,200 firms and trade associations across the United States, as well as Europe, and Scandinavia on export-control issues. OEE has also published and circulated in the United States and Europe a list of red-flag indicators which would signal possible illegal export or diversions.

In January 1984, we published a list of helpful hints to assist exporters to comply with U.S.-export controls. These publications are being used and have been distributed by Government agencies and business communities here and abroad.

As I said before, and I think it is worth mentioning again, from July 1982 to February 1984, 431 cases were opened by the Office of Export Enforcement as a result of leads provided by the business community. Hence, the public plays an important partnership role in our enforcement program.

I have next to me Ted Wu. You may want to ask him some questions, but since February 1983, OEE has played a leadership role in Cocom export control enforcement efforts. Ted Wu, in conjuction with the State Department, has led over 15 export-control enforcement bilaterals with nine Cocom countries or friendly nonaligned countries. In addition, we have instituted export control exchange visits with the United Kingdom and Japan. Recently, OEE worked closely with Belgian export-control authorities and succeeded in helping the Belgian Government investigate a major United States-Belgian diversion to the Eastern bloc.

I would like to make a note about this. There is no question, given what has happened, Senator, in terms of technology, that an export-control program in the United States that is effective in the United States but does not go to the issue of dealing with our allies is not going to be successful overall in preventing high technology going to the Soviets. It has to be a multilateral effort.

In 1974, the United States was producing 75 percent of the technology in the world. In 1984, we are producing 50 percent. The expectations is that in 10 years, we will be producing 30 percent, not because we produce less, since we will be actually producing more, but the important issue is that there are going to be lots of other countries producing technology as well.

Senator NUNN. Would you cite those statistics again?

Mr. ARCHEY. In 1974, the United States was producing, in terms of particularly cutting edge, 75 percent of the technology in the world. In 1984, we are producing about 50 percent. The projections by people involved in high-tech industry in our own economic bureau within the Commerce Department is that we will be producing in 10 years 30 percent, but 30 percent does not mean we are declining, we are going to be in actual numbers producing more, but the rest of the world is also going to be proportionately producing more.

Senator NUNN. Does that include both military technology, dual-use technology?

Mr. ARCHEY. Primarily dual use but as well as military technology, primarily dual use, but that is the other point about an export-control program. In 1974, the United States could have probably successfully, on a unilateral basis, prevented significant military technology from going for this reason: Most of the major technologies that had military applications came from direct sponsored military research. In 1984, it is exactly the opposite. Most of the major advances in technology are coming out of the commercial sector and it is not as easy to determine, when it is coming out of the commercial sector, what its military applications are. I think that is a very important problem for all of us to deal with in terms of export control.

When you have an emerging technology, what are its military applications? They are often not immediately known and, furthermore, you have a rapid transformation from the research and engineering side into the market of sophisticated technology that, in fact, may have enormous military applications.

But the point I am trying to make is, the United States, in terms of dealing with export controls, can no longer go it alone. We are going to have to do it with our Cocom allies, and I would submit to you, we are going to have to get more involved in bilateral agreements with non-Cocom countries or try to bring some of those other countries into Cocom because they are either now, or soon will be, producing the kind of technology we want to keep from the Soviet Union.

Senator NUNN. Sounds as if you agree with Mr. Root's testimony yesterday. Do you pretty much share his views about the Cocom importance?

Mr. ARCHEY. I have seen in 18 months a Cocom which went from being a rather sleepy organization to being a hell of a lot more effective, and it has a hell of a long way to go. I cannot share strongly enough with you how important Cocom is for the Western world and for our allies in terms of preventing high technology going to the Soviets.

Senator NUNN. When you are looking for Defense Department assistance and help, so forth. When you are looking for the Defense view—and we heard from Dick DeLauer yesterday and we will hear from Richard Perle next week, these are the two aspects primarily in the Department of Defense dealing with that position—what are you looking for as the Commerce Department, and I will ask Mr. Walker the same thing. What are you looking for in terms of input from the Department of Defense?

Mr. ARCHEY. Overall, or vis-a-vis the control list that we negotiate with our allies?

Senator NUNN. I am particularly talking about the control list we negotiate with Cocom.

Mr. ARCHEY. First of all, I think the Defense Department can bring enormous technical expertise in terms of the issue I mentioned. It no longer is easy to deal with a technology that came out of the commercial sector and what its military significance is.

Defense has considerable capability to do that; we have some of that in our own engineers, but there is a larger universe, larger staff in Defense to do that. That is the first important determination—is a commodity that is emerging, a technology, strategically significant? That is one.

No. 2 is, I think, Defense rightly has a more cautious view and much more single, if you will, orientations about the national security. They have various mechanisms—DIA and others internally—to provide other information about strategic commodities, and I think that they can bring a point of view about strategic hazards or problems, or implications of what we are ending up controlling or not controlling, that, I think, is very valuable when we go to the list review, and it has been.

I think there has been some controversy on some of the issues, but I think the Defense's input to the process is an extremely important input.

Senator NUNN. Mr. Walker.

Mr. WALKER. If I might just comment on that, and I would agree with much of what Mr. Archey is saying as far as our enforcement effort is concerned. The most important type of information we can be provided by the Department of Defense is, in effect, some kind of proper estimate of what the Soviets are looking for, what it is they are targeting in the West that is of military significance or potential military significance; what are they going after. They provide proper advice to us and an overview, if you will, on the nature of Soviet military and also the nature of the Soviet production capacity for technology. We have often found in the past that the Soviets are as interested, if not more interested, in technology that will enable them to produce their own technology, as they are in the end products themselves. These are really some of the most important features of the Defense Department contribution.

Senator **NUNN**. Would each of you, for the record, if you would, just submit, not anything elaborate, but just sort of a three- or four-point list of what you are really looking for from the Department of Defense?

Mr. **WALKER**. We will be happy to do that.

Senator **NUNN**. I would particularly like for you to address the subject on, let's say, two broad categories. One is a more technical assessment, and the other would be more of a policy, the policy side, because I think that has been the roaring dispute in Defense, who plays what role.

I think it is important; I think Defense is a key in this whole area, but I think it is very important for us to clearly indicate to the Defense Department what we are looking for. We are not looking for diplomatic advice; we are not looking for economic advice; we are basically looking for intelligence, what I call, for lack of a better term, reverse engineering, looking for what the Soviets really need and looking for the implications of that in terms of military balance.

It seems to me that is what we are looking for, not some form of basic philosophical positions. I am not clear yet, we haven't heard from all the witnesses, what we are, in fact, getting from Defense, but I think that has been a big dispute within the Department of Defense about who would do what.

I think we are going to have to pursue it. It would be helpful from your agencies' perspective to tell us, and I really want this to be your agency perspective and not some kind of coordinated position, otherwise it won't do any good, as to what you really are looking for from Defense, what you think that appropriate need is.

Mr. **WALKER**. Fine, Mr. Chairman, we will be happy to provide that.

[The information referred to was marked "Exhibit No. 2," for reference, and follows:]

[Exhibit No. 2]

DEPARTMENT OF THE TREASURY
Washington, DC, April 6, 1984.

Hon. SAM NUNN,
Ranking Minority Member, Permanent Subcommittee on Investigations, Committee on Governmental Affairs, U.S. Senate, Washington, DC.

DEAR SENATOR NUNN: In response to your request during hearings of the Subcommittee on Investigations on April 3, I am submitting for the record the following areas in which the Department of Defense supports Treasury in enforcing export controls.

(1) Treasury receives from Defense a flow of intelligence that is essential to the effective investigation of export control violations.

(2) Defense assists Treasury in identifying those enforcement targets that are the most significant from a national security viewpoint.

(3) Treasury relies on Defense expertise in identifying the acquisition priorities of the Soviet bloc. Defense also provides more general information on the nature of the Soviet military.

In addition to the direct support to Customs' investigative work as described above, Defense also performs enforcement support functions for Treasury, such as (1) providing expertise in the identification of seized shipments, (2) making arrangements for the return of shipments seized overseas, (3) delivering expert testimony in court cases and (4) participating with Treasury in public affairs functions to increase the awareness of the general public regarding the importance of national security export controls.

Sincerely,

JOHN M. WALKER, Jr.,
Assistant Secretary
(Enforcement and Operations).

Senator NUNN. I will address these questions to each of you. It may be more appropriate to one or the other, but I welcome your views on them.

Are overseas investigations critical to effective export controls? Mr. Walker, would you address that?

Mr. WALKER. I would say without any reservations that they are extremely critical to the effective enforcement of the export-control laws in several respects.

First of all, you have the question of the end user; is he a legitimate end user, financially sound or is he a sham end user that is really being used as a conduit for diversion. This is an important foreign investigative role that Commerce plays. Customs is happy to support the Commerce Department in this area, but this is, in effect, a prelicense check and it is also tied in with the post-shipment-verification aspect of it that Commerce performs.

With respect to criminal investigations, since, indeed, it is the objective of all of these schemes to divert technology to the Soviet Union, there is almost invariably a foreign-investigative aspect of the case, and that is why Customs is particularly well suited to carry out this aspect of the enforcement function. We have 10 attaché offices strategically situated around the world, virtually every important country is covered under the umbrella of one attaché office or another, 32 trained investigators are abroad to conduct these investigations, and we depend very heavily upon our relationship with foreign law-enforcement entities in the countries involved in order to be able to successfully conduct these investigations.

Indeed, we really have no right to go on our own to conduct these investigations without the permission and approval of the foreign law-enforcement entities. It is as though the French or German investigators all of a sudden showed up in Atlanta, GA, and just started conducting an investigation without clearing it with the local law-enforcement people or with the Federal law-enforcement people. It just would not be very popular.

Senator NUNN. That was done to a considerable extent from about 1865 to 1890.

Mr. WALKER. I am aware of the concern, and I think the sensitivities linger on.

Senator NUNN. I can appreciate that.

Mr. WALKER. So this is an important issue, and it is an important issue in those countries we are working in because we do have, obviously, sensitive relationships to maintain there. I just have to applaud the work of our Customs attachés abroad in being not only good enforcement officers, good investigators, but also invariably good diplomats.

Senator **Nunn**. What about the memorandum of understanding in this area? Are you speaking for your Department, satisfied that it has addressed this area between the two departments?

Mr. **Walker**. The memorandum of understanding specifically does address the issue of foreign investigations. In fact, that is what it is primarily designed to address.

Senator **Nunn**. I have got a copy of it. I don't need that. We will make it a part of the record at this point.

[The information referred to was marked "Exhibit No. 3," for reference, and follows:]

[Exhibit No. 3]

January 12, 1984.

COMMERCE/CUSTOMS MEMORANDUM OF UNDERSTANDING OVERSEAS ENFORCEMENT OF THE EXPORT ADMINISTRATION ACT

This memorandum sets forth the manner in which investigations of violations of the Export Administration Act (EAA) shall be handled outside of the United States. The procedures set forth herein pertain to investigations of export control violations and not to general enforcement policy matters or to pre-license checks and post-shipment verifications unconnected with such investigations. Such general enforcement policy matters, pre-license checks and post-shipment verifications shall be conducted exclusively by Commerce except that Customs may render such assistance as may be requested by Commerce.

(1) Customs shall be the sole United States agency responsible for liaison with any foreign agency or agencies engaged in law enforcement activities (hereinafter "foreign law enforcement agency or agencies") on specific export control investigations, except, in the countries as specified in Schedule A, where the foreign sovereign has designated the counterpart agency of the Department of Commerce as its export control enforcement agency and that agency has a significant role in the conduct of export control investigations in that country. In the countries listed in Schedule A, Commerce may conduct liaison directly with those agencies necessary for its investigations, except for the host country customs services where the procedures specified in paragraph 3 applies. Where Commerce is conducting direct liaison on an investigation with a non-customs enforcement agency in a Schedule A country, Commerce will notify Customs that it is conducting such liaison on that investigation. Schedule A may be reviewed and modified at any time by the parties specified in paragraph 7.

Customs liaison role is designed to facilitate the conduct of Commerce and Customs overseas investigations. Customs liaison role does not entail the right to determine the conduct of specific Commerce investigations. Customs will, however, transmit to Commerce the guidance and decisions of the foreign law enforcement agencies which may affect the conduct of Commerce investigations.

(2) Commerce and Customs shall conduct EAA investigations outside the United States, only after notifying the other. In such a situation, Commerce and Customs shall make every effort to provide investigative and/or technical assistance requested by the other.

(3) Except in those countries listed in Schedule A, Commerce shall conduct EAA investigations outside the United States in accordance with the following procedures:

(a) Commerce shall notify Customs Headquarters when it desires to conduct an EAA investigation overseas and provide such information regarding the investigation as Customs needs to fulfill its liaison function.

(b) Notification of a Commerce investigation and all requests for support to any foreign law enforcement agency or agencies regarding such investigation shall be transmitted by Customs promptly, after consultation with Commerce, or in such other manner as Customs and Commerce may agree.

(c) To the extent that meetings and interviews or other contacts with host country private persons or corporations are desired by Commerce in furtherance of an investigation of an export control violation, Customs shall be made aware of their purpose in advance and shall seek the concurrence of the appropriate host country foreign law enforcement agency or agencies. Such meetings, interviews and contacts may then be conducted by Commerce in coordination with Customs without a requirement of participation by Customs or, if Commerce elects, by Customs after consultation with Commerce or in such other manner as Customs and Commerce may agree.

(d) In such investigations, Customs shall make every effort to provide investigative and/or technical assistance as requested by Commerce.

(4) Where Commerce uncovers evidence or information pertaining to a Customs investigation or, where during the course of a post-shipment verification outside of the United States, Commerce uncovers evidence or information of an export control violation, Commerce shall notify Customs. Where Customs uncovers evidence or information pertaining to a Commerce investigation, Customs will notify Commerce.

(5) Where either Commerce or Customs wishes to make inquiries of a foreign government agency and where such inquiries concern an EAA investigation by the other, the inquiring party shall notify and consult with the other prior to making inquiries.

(6) Nothing in the foregoing shall interfere with the authority of Commerce to communicate with foreign ministries and departments concerning matters of international export control enforcement policy. Customs should be consulted prior to such contacts when Customs' interests in foreign export law enforcement are directly involved.

(7) Unresolved disputes arising from the implementation of this MOU shall be referred for resolution to a committee consisting of the Assistant Secretary of Commerce for Trade Administration and the Assistant Secretary of Treasury for Enforcement and Operations.

(8) The provisions of this MOU are without prejudice to the role of the U.S. Ambassador in coordinating the activities of U.S. officials within foreign countries.

JOHN M. WALKER, Jr.,
Assistant Secretary (Enforcement and Operations) Department of the Treasury.
LIONEL OLMER,
Under Secretary for International Trade, Department of Commerce.

Senator NUNN. Do you believe there is now a clear understanding that your agency can properly function under it?

Mr. WALKER. Yes; I think the MOU is a general statement. There has been a series of meetings, to which Mr. Archey has referred, between Deputy Assistant Secretary Wu and my deputy, Robert Powis, to actually consider the issues raised by the MOU as they are practically applied.

We believe this MOU does provide a basis for good cooperation as far as foreign investigations are concerned.

Senator NUNN. Mr. Archey, how about you?

Mr. ARCHEY. I think it does, and I would like to just respond in two ways. I agree with John about the importance of the foreign-investigations area. It is extremely important. I would also like to reiterate what I said in my prepared statement which is the most effective enforcement approach, and that is to stop it from leaving. I think that is the reason why we are saying that the importance of prelicense checks, the importance of the intelligence information, et cetera, the best enforcement operation is that it doesn't leave the shores.

The second thing I would say, as far as the MOU, it requires an exchange of cases under investigation overseas; it is extremely important and I would also add as John has stated, it is not obvious that there is, in fact, a conspiracy or any diversion to take place until, in fact, something happens on foreign soil. That is when it becomes evident because everything may, in fact, be legitimate and, in fact, in many instances—and this is a problem—there are no culpable U.S. parties in terms of they were not, in fact, involved in a conspiracy when they shipped to a country and it in turn was a freight-forward intervenor, took the stuff and sent it to another country.

The last point I would make is it goes back to, again, a fundamental point, which John has certainly addressed, how important it is to have relationships with the foreign governments in an effective Cocom program where everybody is operating on the same wavelength.

Senator NUNN. These six or seven countries that are exceptions to the liaison rule. As I understand the MOU basically has the Customs responsible for liaison in foreign investigations except in five or six countries. What is the basis for these exceptions?

Mr. ARCHEY. The six countries—there may be others, too—but we felt these were the ones, the enforcement mechanism within the country for export resides in what would be their counterpart to the Department of Commerce, usually called ministries of trade and industry. And so in Sweden, Austria, Belgium, Japan, Turkey—what is the other one, Ted? India, that would be the case. Therefore, we would be dealing with our direct counterparts.

Mr. WALKER. In those circumstances, Mr. Chairman, I would also point out the MOU does honor and preserve the Customs to Customs relationship because even in the six countries, if the matter is referred to the foreign Customs Service of those six countries, then the liaison function of our U.S. Customs Service——

Senator NUNN [interposing]. Even in those six countries you have the Customs to Customs liaison. You don't have Customs to any other foreign agency.

Mr. WALKER. That is right. Commerce would be free to conduct its own liaison with noncustoms enforcement agencies in those countries.

Senator NUNN. I am not sure I understood what the unique thing about these six countries is from others. Would you repeat that?

Mr. ARCHEY. It is from the point of view of the enforcement policy and enforcement operations activity, that in those countries, the primary agencies involved with the enforcement of controls dealing with exports resides with Ministry of Trade, within Commerce Department, which would be our direct counterpart.

Senator NUNN. They are organized differently from the other——

Mr. ARCHEY [interposing]. That is right. There may be other countries in that same situation.

Senator NUNN. Are these exceptions going to cause a problem, Mr. Walker? Do you believe this is a policy you can operate with effectively?

Mr. WALKER. As with every agreement, every side has to give a little bit. These were negotiated, and we will have to wait and see how it works out in practice. I would hope they wouldn't cause a problem but we can't be too sure yet. We are going to work to try to make this MOU a workable tool, and I think both sides are free to revisit this question at any time. In fact, I believe the MOU specifically provides this list can be modified at any time.

We do not intend, under the MOU, to preempt Commerce investigations to the areas to which we are direct liaison. We simply want to provide the foreign law enforcement entities in those countries with some certainty as to whom they can turn to as being accountable for these sensitive investigations that may be conducted on their soil. It is one thing to have one agency investigating in a particular area in your country, and it is another thing when two agencies are doing it.

What we are striving for is, in effect, a degree of accountability by the U.S. Government to foreign law enforcement for these investigations, quite similar to what we have in the drug area where DEA operates abroad and where Customs is not free to conduct investigations in a foreign country without close coordination with DEA. In most of those cases, DEA conducts the foreign investigations themselves and simply would not permit Customs to conduct an investigation. It is that kind of accountability that I think would be a responsible course of action for our Government to take in dealing with foreign law enforcement agencies.

Senator NUNN. The subcommittee obtained from the Commerce Department Office of Inspector General a report of Inspection No. OPE-044, regarding the IG's inspection of the Department of Export Enforcement San Francisco field office. This report is dated September 1983. Without objection, it will be received as an exhibit at this point in the record.

[The document referred to was marked "Exhibit No. 4," for reference, and follows:]

EXHIBIT NO. 4

REPORT ON INSPECTION

SAN FRANCISCO FIELD OFFICE
OFFICE OF EXPORT ENFORCEMENT
INTERNATIONAL TRADE ADMINISTRATION

SEPTEMBER 1983

REPORT NO. OPE - 044

OFFICE OF INSPECTOR GENERAL
U.S. DEPARTMENT OF COMMERCE

OFFICE OF INSPECTOR GENERAL
REPORT ON INSPECTION
OFFICE OF EXPORT ENFORCEMENT
SAN FRANCISCO FIELD OFFICE

EXECUTIVE SUMMARY

The Office of Inspector General (OIG) conducted an unannounced inspection of the Office of Export Enforcement (OEE), San Francisco Field Office, (SFFO) during the week of September 12, 1983. The field office is primarily responsible for the prevention of unauthorized exports, development of information regarding possible export control violations, preparation of violation cases for Departmental administrative actions, and referral of cases to the Justice Department for criminal prosecution.

Based on its visit to SFFO, the OIG inspection team found that many improvements have been made in Commerce's enforcement of export controls since the OIG's first inspection of the Department's export compliance efforts in April 1982. There are, however, many serious problems remaining in Commerce's export enforcement effort, which was reorganized and placed under a new Deputy Assistant Secretary in late FY 1982. The inspection of the SFFO revealed both improvements and weaknesses which appear to exist in the current overall operations of the Office of Export Enforcement, as well as findings unique to the San Francisco Office.

Some of the positive SFFO attributes observed during the inspection include:

- For the most part, SFFO is staffed with highly qualified and well-motivated investigators.
- Investigative reports are timely, thorough and substantive.
- Vital law enforcement training and equipment are being provided for agents.
- Working relationships between the team leaders and staff are very good.

While we were generally impressed with the field office's investigative operations, there were a number of problems which we believe warrant ITA management's attention. Specifically, we noted that:

- Lack of law enforcement authority seriously impedes effective enforcement of export controls by San Francisco OEE special agents.

- Coordination and cooperation between the OEE and the U.S. Customs Service in the San Francisco area are not good. Immediate aggressive leadership and action are needed from both agencies to improve working relationships and eliminate or minimize the problems arising from the inherent interagency rivalry generated when two agencies have the same mission and overlapping responsibilities.

- The absence of a signed ITA-Customs memorandum of understanding is hampering coordination efforts and invites duplication of investigative work by the two agencies.

- Customs officials believe that the Commerce Department is delaying their requests for the release of proprietary business information subject to the confidentiality provision of Section 12(c) of the Export Administration Act of 1979, as amended. Cognizant OEE and General Counsel officials deny this claim. As this situation -- whether perceived or real -- is hampering more effective coordination and cooperation between Customs and OEE, we believe that actions should be taken to resolve this divergence* of opinion.

- OEE operational policies and procedures are generally nonexistent. The few that exist are communicated to the field in a piecemeal manner.

- The Office of Export Administration's licensing operation needs to be improved to provide current, consistent, reliable licensing information to support the enforcement effort; specifically:

  - License determinations are subject to changing and contradictory opinions from licensing experts; such fluctuations in opinion hamper enforcement actions and court cases.

  - License screening remains an antiquated manual process; it is slow and subject to human error and oversight.

  - The license accounting retrieval system (LARS) is not fully reliable.

  - Export enforcement actions by both OEE and Customs are often held up for an inordinately long time while licensing decisions are made; written copies of licenses and certified statements from licensing officers take even longer to receive.

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* Section 12(c) of the Export Administration Act of 1979, as amended

- o The full potential for administrative remedies is not being realized in that:
    - -- Administrative remedies are not considered a priority item by SFFO/OEE investigators, nor apparently by OEE and ITA officials in Washington.
    - -- There are no guidelines for issuance of warning and charging letters, nor are there any clear criteria for determining appropriate fines, penalties and denial of export privileges.
    - -- No mechanism exists to track warning letters.
    - -- There is no feedback from Headquarters on warning and charging letters.
- o There is a need for in-house legal expertise.

In addition, minor infractions of administrative regulations were noted in the areas of the imprest fund and time and attendance certifications. SFFO operations could be made more efficient by upgrading copying and typing equipment.

Our report contains, on pages 23-25, a number of recommendations to address the aforementioned problems.

INTRODUCTION

Pursuant to the authority of the Inspector General Act of 1978, the Office of Inspector General (OIG) conducted an unannounced inspection of the San Francisco Field Office (Burlingame, Ca.) Office of Export Enforcement, International Trade Administration (ITA).

PURPOSE AND SCOPE

The purpose of our inspection was to review the activities of the San Francisco field office to determine the efficiency and effectiveness of overall operations and to identify internal control weaknesses. We also assessed the field office's compliance with selected Departmental and ITA policies and procedures.

The OIG inspection team visited the San Francisco field office during the week of September 12, 1983. The team examined selected records and documents and interviewed the staff. In addition, interviews were held with representatives of other federal law enforcement entities and private sector exporters to assess their perception of the effectiveness and efficiency with which the export enforcement field office accomplishes its mission.

BACKGROUND

The Office of Export Enforcement (OEE), within the International Trade Administration, is the Commerce Department's investigative unit responsible for enforcement of export controls and antiboycott compliance. This office was created in May 1982 when the former ITA Compliance Division was reorganized and elevated to office status, headed by a new Deputy Assistant Secretary. OEE now is organized into several Headquarters offices and divisions plus four field offices.

The San Francisco field office is responsible for prevention of unauthorized exports and the development of information regarding possible export control violations, investigation of suspected export violations, preparation of violation cases for Department of Commerce administrative actions, and referral of cases to the Justice Department for criminal prosecution. Every effort is made to conduct these activities in a manner that does not have an adverse effect on legitimate trade while, at the same time, insuring compliance with the law.

The enforcement activities involve programs to educate exporters on export control regulations, as well as investigative activities conducted by export enforcement special agents to discover and frustrate export conspiracies and illegal exports. Special agents of the Office of Export Enforcement conduct investigations into suspected violations of the Export Administration Act of 1979, as amended, and work in conjunction with law enforcement personnel from other Federal and State or local government agencies as well as foreign governments.

OBSERVATIONS AND CONCLUSIONS

The OIG inspection team found that many improvements have been made in Commerce's enforcement of export controls since the Office of Inspector General's first inspection of the Department's export compliance efforts in April 1982. The team also identified some critical problems in OEE's operation which have not improved; in fact, they have become worse, at least in the case of the San Francisco Export Enforcement Field Office. The major observations and conclusions of the OIG inspection team are outlined below:

I. LACK OF LAW ENFORCEMENT AUTHORITY

We recognize that ITA is very much aware of this problem, and that an aggressive attempt (legislative and administrative) is under way to resolve it. Nevertheless, because of its significance to the effective discharge of the SFFO/OEE mission, we feel that the inspection team's findings on this subject warrant discussion. OEE agents do not have authority to request or execute search warrants on their own, make arrests or carry firearms. When they were hired, the OEE agents were told that Commerce was seeking full law enforcement powers for them. The new Export Administration bill proposed by the Administration does include that authority for the OEE agents. However, that bill is still pending in Congress.

Not having such law enforcement powers is a problem for all OEE agents who for, example, must depend and wait on other law enforcement officials to request and execute search warrants for them. In San Francisco, however, the lack of law enforcement powers has become an even greater problem, because John Gibbons, Chief of the Criminal Division in the U.S. Attorney's office, has said that OEE agents must use and work with U.S. Customs Service agents in all investigations which require search warrants.

Members of the inspection team met with Gibbons to discuss this issue. His position is based on the fact that the OEE agents are not referenced in Title 28 of the Code of Federal Regulations, Part 60 ("Authorization of Federal Law Enforcement Officers to Request the Issuance of the Search Warrant") or any other directive giving them such law enforcement authority. While Gibbons acknowledges that the SFFO/OEE agents are good, aggressive investigators, he does not believe they can do their job effectively without such police powers. Gibbons knows of criminal prosecutions which have been dismissed due to an agent's lack of authority to request and execute search and/or arrest warrants. He does not want this to happen on any OEE cases. Thus, he will not accept OEE cases for prosecution unless they use Customs agents to request and execute their search and arrest warrants.

Both Customs and Gibbons want OEE to involve Customs in each case up front, not just at the point when a warrant is needed.

While SFFO/OEE and Customs started out working joint cases, the tensions soon mounted, especially when an aggressive OEE agent tried to control the case. (See following section for more discussion of interagency rivalry.)

In June 1983, the tensions between OEE and Customs agents had become so great that the Customs Special-Agent-in-Charge (SAC) notified the OEE SAC that Customs would not request or execute search warrants for OEE where Customs had been involved in the case on a joint basis up front. As a result, at the time of our inspection visit, Customs had neither requested, nor executed any search warrants for OEE since June 1983. For two to three months, OEE agents have been forced to find someone else to request and execute their warrants (counter to Gibbons' decree) or go without them. This situation has seriously hampered OEE's investigative capabilities.

During a final meeting of the OIG inspection team with the new Customs Area SAC and the Assistant Regional Commissioner for Enforcement, it appeared there was a good possibility that Customs would change its position on the search warrant issue. Both of these Customs officials, relatively new in their present positions, agreed to aggressively pursue improved cooperation with OEE; they were going to reconsider the no warrant policy and said they thought they could handle OEE's warrant needs with recently hired additional Customs agents.

OEE should follow up with Customs to make this tentative commitment a reality. OEE should also make sure that the Customs agents are well briefed in advance on each case when Customs is asked to request a search warrant. It is essential that Customs obtain this information so that they can produce the requisite sworn affidavit establishing the grounds for issuing the warrant.

Although the above will help the immediate problem at SFFO, it does not fully address the issue. Virtually all of the SFFO/OEE agents come from other Federal law enforcement agencies where they exercised authority to request and execute search warrants, make arrests and carry firearms. They find it frustrating to have to rely on others to do part of their job, and they have experienced delays on their cases because of their inability to request and execute search warrants on their own or make arrests. OEE agents also believe it is important for them to be able to carry and use firearms. Nobody should be asked to engage in such confrontational situations as executing search warrants or making arrests without firearms. Most of the OEE agents have had firearms experience and training on prior jobs, so they are well prepared to handle such authority; the others could receive appropriate training. Futhermore, without the authority to arrest, a suspect could evade custody even after discovery of the most incriminating evidence.

Finally, OEE agents expressed concern as to whether they have all of the defenses and/or immunities available to "law enforcement" officials who have been sued based on their official conduct. According to Gibbons, OEE agents may be personally liable in a law suit based upon their actions, if improper, while carrying out investigative responsibilities. These comments imply that law enforcement agents have some special legal protections for their actions that other Government officials do not have. We know of no such special protections, and this fact should be explained to the OEE agents by ITA. However, there is one distinct difference between law enforcement officials and other Government employees in the area of unreasonable searches and seizures.

Until 1974, the Federal Tort Claims Act (FTCA) barred any suit against the Government for "assault, battery, abuse of process, or malicious prosecution." In 1974, Congress amended the FTCA to allow such suits when investigative or law enforcement officers act under color of law so as to injure the public through searches and seizures that are unreasonably conducted (e.g., without the requisite warrants or with warrants issued without probable cause). The FTCA's definition of investigative or law enforcement officer requires that the person be empowered by law to execute search warrants, to seize evidence or to make arrests, thus excluding FTCA suits against the Government arising out of unreasonable searches and seizures by OEE agents. If the agents were law enforcement officials, the FTCA would allow the plaintiff to sue the Government in addition to the individual agent(s) for the improper activities.

A great deal of material exists that discusses the issue of tort claim immunity for Federal employees, and there are regulations issued by the Justice Department on when they will defend a Government employee in a lawsuit based on his or her official actions. To eliminate possible misunderstandings, it would be helpful if ITA would compile some of these materials and make them available to the OEE agents.

Commerce has sought temporary law enforcement powers for its export enforcement agents. Pending passage of the legislative authority, OEE in December 1982 asked the Justice Department to approve deputization of OEE criminal investigators as Deputy U.S. Marshals. This would have given the OEE agents temporary authority to conduct searches and seizures, make arrests and carry firearms. OEE expected that its December request, addressed to the Deputy Director of the U.S. Marshal Service, would be approved since OEE Deputy Assistant Secretary Theodore Wu had previously discussed it with senior DOJ officials who were inclined to favor it. However, OEE never got approval of its request for temporary law enforcement authority. In fact, it only received verbal denial of that request this past April.

The OIG inspection team believes that OEE should continue to pursue several paths at the same time to resolve the law enforcement authority problems of OEE agents. These include:

1. Obtain from the Department's General Counsel a written opinion on the OEE agents' law enforcement authority;
2. Disseminate to OEE agents materials which discuss the issue of tort claim immunity for Federal employees, as well as the regulations issued by the Department of Justice on when they will defend a Government employee in a lawsuit based upon his or her official conduct.
3. Actively pursue passage of legislation giving OEE agents law enforcement powers and authority;
4. Continue to pursue Special Deputy or Deputy U.S. Marshal law enforcement authority by executive order or action, if legislative authority is not imminent;
5. Actively seek improvements in cooperation with and support from the U.S. Customs Service, including renewal of Customs search warrants and better OEE/Customs exchange of case information and leads.

II. NEED FOR IMPROVED COOPERATION BETWEEN OEE AND CUSTOMS

In the one year since OEE's San Francisco Field office was opened, cooperation between that office and the Customs Service has not been good In fact, it appears to have deteriorated significantly in the last three to six months.

Increased tensions between the two agencies have been felt most severely at the case and investigative agent level. Agents from both agencies told members of the OIG inspection team that their work together on joint cases was increasingly more difficult because of mutual distrust, competition for "credit", leads and informants on a case and even arguments over who had custody of seized documents.

Agents from both agencies deliberately avoid working together on export enforcement cases. Commerce agents pursue their leads and cases as independently as possible, and call on Customs when they need warrants. This was not always the case. When SFFO became operational most OEE cases were worked jointly with Customs, albeit at AUSA Gibbons' direction. Customs agents have recently become more reluctant to work any Commerce export license violation cases, preferring instead to handle drug or arms control cases. Customs agents said resentfully that they no longer wanted to be OEE legmen and have refused to request or execute search warrants or conduct seizures on OEE investigations where they have not been involved in the case early on.

The negative effects of this increased tension and lack of cooperation between SFFO/OEE and Customs are great. These problems may continue to result in:

1. Reduced Customs enforcement of Export Administration Act violations and handling of related cases;

2. Wasted scarce staff resources as both Commerce and Customs agents shadow each other and duplicate work because of distrust or rivalry over who "owns" a joint case, or because both agencies begin to work the same leads without sharing information up front;

3. Extra time spent by OEE investigators finding ways to get necessary warrants and have them executed by authorized law enforcement officials other than those from Customs (OEE agents have even used NOAA inspectors to issue warrants, contrary to the advice of an Assistant U.S. Attorney);

4. Loss of vital evidence because of OEE's failure to obtain necessary search warrants in time to prevent the suspect's destruction of evidence;

5. Failure of agents to request or share leads or

information on past Customs seizures or detainments or past DOC licensing violations.

6. Complaints from AUSAs who do not want to handle cases where bickering investigators could hamper the quality of a prosecution.

7. Confusion among private sector exporters over the handling of export enforcement cases; investigators from both agencies often visit the same companies to pursue leads Exporters must be perplexed if not annoyed by the presence of agents following up similar leads. Such rivalry discourages cooperation from exporters or private individuals who provide information on possible export violations.

The causes and origin of the interagency rivalry are not difficult to trace. Both Commerce/OEE and Customs have identical mandates to enforce export controls. There is no clear jurisdictional division for export enforcement between the two agencies, such as Customs has with the Drug Enforcement Agency, which makes it easier for the two agencies to work cases jointly or to divide up cases according to specific, unique mandates and jurisdictions. Commerce has long had the responsibility for export enforcement, but only recently has it begun to gear up its enforcement effort. Customs, in the meantime, has taken on new responsibilities for export enforcement, backed by $20 million in FY 83; and $30 million in FY 84 from the Defense Department. Rivalry and tensions have been heightened by behind-the-scenes lobbying and congressional testimony of headquarters management by both agencies who seek to maintain or expand their respective agency roles in export enforcement. Legislative hoppers include bills to transfer Commerce's export enforcement responsibilities to Customs, consolidate all Federal export enforcement efforts in a new Office of Strategic Trade, or increase Commerce's law enforcement powers for investigation of export control violations.

Congressional testimony, rhetoric, report cards and proclamations of investigative accomplishments on the part of each agency have heightened the heat of battle and placed new pressures on investigators and management staff to produce their own successes to help win the turf war. In this atmosphere, it becomes more difficult to expect investigators to harmoniously work joint cases or to share leads and case information. Both Customs and OEE have strong, aggressive agents working their high tech export cases; each one wants to deliver successful cases and prosecutions to his agency. OEE agents, in particular, know that successful enforcement cases are their only hope for survival and growth as an agency.

Other problems have caused or exacerbated poor coordination and cooperation between SFFO/OEE and Customs. These include:

1. Commerce's continued delay in releasing to Customs proprietary business information subject to the confidentiality provision of Section 12(c) of the Export Administration Act of 1979. This issue is discussed in detail on page 16.

2. Overseas travel or investigative work is another area of major contention between Customs and OEE. This is, of course, a much broader problem. We were told that it is one of the reasons why Commerce and Customs have been unable to reach agreement on a national memorandum of understanding. The SFFO/OEE Special-Agent-in-Charge and investigators feel strongly that they must follow up on their cases, wherever necessary, including overseas. Many, if not most, of the OEE cases require some overseas investigative work and OEE believes it has jurisdiction to investigate its export control cases overseas. It also makes sense that the agent most informed and knowledgable about any specific case follow it up overseas.

   Customs, however, maintains that it should have sole jurisdiction for overseas investigations of U.S. export control violations. Customs' position is that it has treaties with foreign governments for this purpose and is the internationally recognized authority to conduct such investigations overseas using its network of U.S. Customs attaches located in 70+ nations throughout the world. Customs prefers OEE agents to use the Customs attaches to do their overseas investigative work. This is unacceptable to OEE agents who say there are inordinate delays in getting Customs attaches to follow up on their overseas leads. Nor do OEE agents find it acceptable or effective to turn over their casework to agents less informed than they of the intricacies of any one of their usually complex cases.

   SFFO agents have made several requests to go overseas in order to follow up on their cases. On cases which they are working jointly with Customs, OEE and Customs agents have traveled together to Haiti and Canada. Other SFFO requests to go to Britain and to several European countries have not been approved yet, or were turned down. In the first situation, the British government said that OEE should use the resident U.S. Customs attache to conduct the investigative work. It is obvious that this jurisdictional problem should be resolved as soon as

> possible before it further damages U.S. government relations overseas or hampers development of OEE export cases.
>
> The overseas investigative jurisdiction issue also involves the use of Foreign Commercial Service (FCS) personnel overseas to conduct prelicensing and post-shipment checks overseas. The Customs Service, and Assistant U.S. Attorney John Gibbons, question OEE's use of FCS personnel to conduct this work on OEE investigative cases. They maintain that FCS personnel are not trained law enforcement officers and do not have the necessary skills to become effectively involved in export violation cases. At the very least, the Customs Assistant Regional Commissioner for Enforcement emphasized that Commerce's commercial attaches should keep their counterpart Customs attaches advised of all investigation-related casework or licensing checks they are doing overseas. This is not being done at the present time and Customs attaches are often caught unaware of their sister agency's investigative work when questioned by foreign government officials.

Many of the above problems which cause or exacerbate friction between OEE and the Customs Service could be corrected or reduced to a manageable level if senior OEE and Customs officials took positive and aggressive action. For example, OEE and Customs might profit by directing their respective SACs and senior field managers to develop closer working relationships and step in immediately to resolve problems and tensions among their investigative agents. The new Customs Area SAC in San Francisco told the OIG inspection team that closer case monitoring by himself and the OEE SAC -- and up front sharing of information, leads, lists of cases and suspects between the agencies -- could significantly improve interagency cooperation in San Francisco. A more active role by both the OEE and Customs SACs to reduce competition and increase cooperation between their agencies and agents should greatly improve the current working situation, pending resolution of the law enforcement authority issue.

During their discussion with the OIG inspection team, the regional and San Francisco Customs officials suggested a reasonable approach to share export control casework between OEE and Customs agents and eliminate the present warrant problem. They suggested that:

(1) there are some export investigations which OEE should be allowed to conduct on their own; e.g., those where OEE developed the investigative leads prior to Customs involvement and where Customs had no special expertise in the subject

matter of the investigation. If a search warrant was needed in these investigations, then these Customs officials stated that they should be able to find the resources to assist OEE in the application for, and execution of, the warrant. In order to satisfy the U.S. Attorney's office, SFFO/OEE could keep Customs advised of the major findings in the investigation as it proceeds, but Customs would not have to be integrally involved in the investigation;

(ii) there are some cases which are susceptible to being worked jointly between OEE and Customs (with no duplication of efforts). These would be the more convoluted cases, involving numerous companies or where both Customs and OEE had developed the investigative leads. These cases could be selected ahead of time by the respective Customs and OEE SACs; and

(iii) in order for (i) and (ii) above to work, there has to be a method established by which Customs can be kept informed of the particular individuals and/or entities which are the subject(s) of OEE investigations, and vice versa. This means that the respective SACs must discuss and decide ahead of time how each case can be handled.

We believe that the above or some other type of working arrangement should immediately be developed by OEE and Customs in San Francisco.

On the national level, it is also essential that a memorandum of understanding (MOU) be finalized between the two agencies. The MOU should clearly lay out the domestic and overseas jurisdictions, responsibilities and special roles of each agency and their staffs.

In all their discussions with Customs, OEE and Justice Department officials, the OIG team members repeatedly faced the underlying issue of whether two Federal agencies can effectively share responsibility and authority for enforcement of export controls. If both agencies did not have the mandate to do so, it is unlikely that the present dual enforcement system would be proposed as the most efficient and effective way to get the job done. There is no apparent reason for both Commerce and Customs to be involved in export enforcement. One agency could do the job just as well or better than two, given the necessary manpower authorities and resources. After witnessing the increasingly strained relations between Customs and OEE agents working the control cases, this conclusion is even more apparent.

III. LICENSING OPERATIONS

Reliable, timely and consistent export licensing information and decisions are essential to the prevention, detection, investigation and prosecution of export control violations. Both OEE and Customs agents must rely on the licensing information and licensing officer decisions and leads on possible export control violations, which come from the ITA Office of Export Administration. The OIG inspection team found that a number of problems exist in ITA/OEA's licensing operations, as these affect the activities of SFFO. These problems seriously hamper the enforcement of export controls and the prosecution of export control violators. The major problems in licensing operations identified during the inspection are discussed below.

A. License Accounting Retrieval System (LARS)

The Office of Export Administration maintains an automated listing of all U.S. export licenses applied for or issued. This listing -- the License Accounting Retrieval System (LARS) -- is available on a computer terminal in each OEE field office. The SFFO agents find the LARS a useful tool for conducting investigations. They can get a quick read out on the licensing history of subjects of their investigation. However, the system has two drawbacks:

1. The data base is often out of date regarding certain license applicants; and
2. A programming limitation precludes sorting distribution licenses by exporter.

The data base becomes out of date when a final determination has been made on a license application and that determination has not been entered into LARS. Until it is entered, an agent querying the system is told that a company does not yet have a license when in fact it does or the license has been denied. The time lag between a licensing determination and its entry into LARS may be as much as a month or more. OEA is attempting to speed up the process of entering current data into LARS. OEE agents are aware of this problem and routinely guard against deception by checking the hard copy file kept in Washington on each license applicant for an up-to-date status report. Since a computer printout is not admissible evidence in court, and only the hard copy file is admissible evidence, then the agent would eventually have to retrieve the hard copy anyway. The LARS data base problem only forces an earlier than normal retrieval of the hard copy for an ongoing investigative case. The time delay in getting the hard copy file or accurate LARS data on a licensing applicant can be a more important problem when an OEE or Customs agent must make an immediate decision on a shipment detainment or seizure.

Another LARS problem which affects the investigative process in that LARS does not contain information on distribution licenses by exporter. As a result, agents must do considerable additional work to track these licenses back from consignees to the actual exporters. (LARS does sort distribution licenses by consignee.) A LARS programming change would solve this problem.

B. License Application Screening

The application screen is a file containing an alphabetical listing of the names of persons and/or firms which were previously denied export licenses or are suspected of illegal exporting activities. Those who are considered a threat to national security are also on the screen. Interviews with the SFFO/OEE agents disclosed that this vital function remains an antiquated manual process which is subject to human error and oversight.

The manual screening system cannot be maintained and updated with the speed and accuracy necessary to provide current, consistent, reliable information and data on suspected violators. The result is that names are overlooked or not recognized due to misspelling or omission by an applicant. Since the "screen" is not automated, agents of both the Customs Service and OEE cannot access the system immediately nor can they immediately enter data on new violators or suspects. Additional delays occur as a result of slow mail deliveries by the U.S. Postal Service and Department mail distribution.

The manual system also provides innumerable opportunities for human oversight or error. OEE processes over 75,000 export license applications a year. Given this large volume of applications, it can be expected that some applicants will slip through the screen review process and may obtain licenses that would otherwise be denied.

Not much, if anything, appears to have changed since the last OIG inspection report outlined screen-related problems similar to the ones above. ITA, in its response to that OIG report, agreed that the manual screening process left much to be desired. ITA promised that "priority will be given to automation of the 'screen' process, intelligence gathering, and internal control needs.... The new automated screen process should also be able to go far beyond a simple match of names; it should help detect deceptive submissions, omissions or substitutions by applicants, or at least flag the more obvious ones for further review." Despite this ITA promise made in July 1982, little or no improvements were apparent in the screen process. ITA should carry out its commitments to automate and improve the screen.

C. Licensing Determinations

A number of serious problems exist in the export enforcement process because of how and when decisions are made to issue or not issue export licenses. These decisions are made by the Office of Export Administration, with consultation and advice from other Federal agencies, as appropriate. OEE and Customs agents, as well as several Assistant U.S. Attorneys, pointed out past, current and potential problems and weaknesses in the licensing determination process which hamper export enforcement efforts. These include:

1. Changing Opinions from Licensing Officers.

   Initial written or oral opinions as to whether a particular export requires a license have been changed at a later date by the same licensing officer, or by another who takes a second look at the application. In some cases, this has occurred after investigative resources were expended on the strength of an initial opinion to deny a license. Licensing determinations have been changed by OEA and a previously denied license has been granted, yet agents handling a violation or detained shipment have not been notified by OEA of the new decision to issue the license. Both OEE and Customs agents identified specific cases where they had spent considerable time on investigations and detainments or seizures, only to have OEA reverse an initial determination that a license should be denied. In another case, Customs initially detained a shipment while waiting for a licensing determination. After OEA gave a verbal opinion that no license was needed, Customs allowed the ship to sail, only to have to later stop the ship in another port when OEA changed its decision and said a license was required. This caused considerable embarrassment and used valuable staff resources which could have been expended on other export control cases.

   Several Assistant U.S. Attorneys also had serious reservations about the accuracy and certainty of licensing determinations. They fear that an entire case can be lost in court if licensing decisions are made incorrectly or changed when a licensing officer testifies in court. Most AUSAs want written, certified statements from licensing officers and a complete, certified licensing history/search on a company before going to court. They still remain concerned about the conflicting testimony in the courtroom.

2. Delays in Licensing Operations.

   It often takes weeks if not months to

obtain a licensing decision from OEA, or even to get a licensing officer to make a site visit, when necessary, to look at specific products. Much of this is due to the sheer volume of export license applications. Delays are also due to the large number of items and restrictions which are on the control lists and the technical evaluations which are necessary to make accurate judgements on any specific good to be exported. Decisions to grant export licenses for high technology, strategic or militarily critical goods or technology usually require consultation with the Departments of Defense, State or other agencies with national security interests. This adds time to the licensing determination process. It also adds frustration and inordinate time delays for investigative agents who may need the licensing decisions to pursue their cases or detain or release shipments.

Such licensing delays can also cause substantial financial loss to small company exporters who may have their proposed exports detained for long periods of time while a licensing determination is made. Often small exporters are operating on letters of credit which raise their export finance costs with any shipment delays. This encourages some small exporters to avoid the licensing process altogether, and to make illegal shipments just to avoid licensing delays. If the licensing process were expedited, these types of minor infraction cases (i.e., illegal exports normally eligible for licensing) would disappear from the OEE caseload, leaving the more egregious cases for the agents to pursue.

Investigative agents have also experienced delays in getting complete and final decisions on licensing questions; e.g., a list of exported products may be sent by an agent to OEA for a decision on whether a license is needed and was issued for each product on the list, and OEA will send back a partial response which covers only some of the exports on the list. Agents have also had to wait over a month, in some cases, just to get a copy of an export license issued by OEA.

3. Outside Pressures or Influences on Licensing Decisions.

There is at least a perception -- on the part of various Customs, OEE and Justice officials in San Francisco -- that the licensing determination process may be subject to outside pressures or influences. Several examples of possibly improper influence on licensing decisions were brought to the attention of the OIG inspection team. Specific cases were cited where calls from politicians or exporters to senior ITA officials were thought to have resulted in shifts in initial licensing decisions. While no concrete evidence was presented to the inspection team that illegal, unethical or improper influence had compromised the licensing decision process, there were enough questions raised to warrant ITA management attention. If necessary, ITA should improve its internal controls to reduce the susceptibility -- and perception of susceptibility -- of licensing officers to improper influence.

4. Investigative Leads from Licensing Officers or Licensing Information.

In some cases, OEE agents get leads on possible export violations from licensing officers who come across suspicious applications. However, much more information on possible violations or illegal exporters could be obtained this way if licensing officers consciously looked for it.

The OEE Intelligence Division also needs to do more analysis of available licensing information and past export control violations.

In response to the 1982 OIG inspection report, OEE outlined plans to increase and upgrade its intelligence analysis capabilities. OEE planned to make greater use of U.S. and International Coordinating Committee (COCOM) intelligence information, LARS and other OEA licensing information to develop leads, identify diversion patterns and trends, and develop cases on possible export violators and illegal export targets, importers and foreign government or company practices. On this inspection trip, we found that little of this crucial intelligence and licensing analysis and case leads had yet begun to flow out from Washington to the field.

IV. CONFIDENTIALITY PROVISION OF SECTION 12(c) OF THE EXPORT ADMINISTRATION ACT (EAA) OF 1979

According to Customs officials in San Francisco, the Commerce Department continues to delay release of Section 12(c)* proprietary business information. Customs officials complain that these delays hamper their investigative efforts. They view these delays as an additional impediment to more effective cooperation and coordination between the two agencies. On the other hand, OEE headquartes and DOC General Counsel officials deny that the Department delays the release of 12(c) information to Customs representatives. While the OIG inspection team was unable to pinpoint the precise reasons for this divergence in opinion or perception, we believe that the situation -- whether real or perceived -- warrants ITA management's prompt attention.

Neither Customs nor OEE officials were able to outline the causes or extent of the delayed 12(c) release problem. There are a number of possible causes for the delays, including Commerce's treatment of Customs requests as requests for use of 12(c) information for public disclosure purposes, rather than just for internal Customs' investigative use. Delays in getting 12(c) information out to Customs agents in the field may also be due, in part, to delays in transmitting that information between OEA and Customs personnel stationed at OEA and among the various Customs headquarters and field offices which handle the requests for information.

Customs officials also indicated their belief that Commerce's narrow legal interpretation of 12(c) may be causing some delays in the release of this vital information. Commerce OEE headquarters and OGC officials advise that this is not the problem. These DOC officials were also unclear as to why and if, in fact, there are delays in 12(c) information being released to Customs.

Until this problem -- whether real or perceived -- is resolved, we believe that it will remain as another barrier to improved cooperation between OEE and Customs.

Commerce should take action to review the entire 12(c) information release issue and ensure that this information is more quickly available to appropriate Customs officials. The proposed interagency memorandum of understanding should clearly outline the conditions for release of 12(c) information to the satisfaction of both agencies.

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*Section 12(c) of the Export Administration Act of 1979, as amended, protects the confidentiality of proprietary business information submitted to ITA under the Act; e.g., information which businesses must submit on export license applications.

V. ADMINISTRATIVE ENFORCEMENT ACTIONS

In addition to criminal prosecution, violators of the export control laws can be subject to administrative enforcement actions. These include warning and charging letters. OEE will refer cases to the Departmental Office of General Counsel for initiation of administrative proceedings. This is usually done once OEE determines that criminal prosecution is not warranted nor likely to succeed. OEE agents prepare the draft warning or charging letter with recommendations for administrative action or penalties and send them to Washington for review and final action.

Warning letters are used for less serious infractions of the export laws. They provide guidance for the person or company which committed the violation; they point out what was done improperly and warn against further infractions which could result in stronger administrative sanctions or criminal prosecution.

Charging letters are issued for more serious violations of the export laws and regulations. They usually levy fines, suspend or deny an existing export license or export privileges for a fixed period of time. The OEE field office prepares the initial draft of the charging letter and recommends specific fines or other administrative sanctions. These are also reviewed in OEE Headquarters and OGC. A hearing may be requested and held before an administrative law judge before the final administrative sanctions or order is issued to the exporter.

Based upon our discussions with SFFO/OEE agents and our observations, there appear to be problems with OEE's and the Department's present system for handling administrative enforcement actions.

A. Most importantly, the Department has not developed a strong, effective administrative remedies system for its export enforcement program. Administrative enforcement actions could be a far more effective tool in both preventing further more serious infractions of the law, and in strengthening criminal cases against specific, repeat offenders. SFFO/OEE investigators are primarily interested in criminal prosecutions, administrative actions are mainly an afterthought to closeout a case. Once administrative action recommendations are sent to Headquarters, they are frequently watered down, or fines and penalties waived in legal and adminstrative hearing proceedings. The OEE agents also do not actively push for strong and fast action by Headquarters.

B. OEE headquarters has not issued any specific criteria or guidelines which the SFFO/OEE investigators can use in determining whether to recommend a warning or charging letter, or what type or amount of fine or civil penalty or export privilege suspension is appropriate. Too much discretion is left up to the individual investigator in recommending administrative sanctions or actions. There should be clearer guidance given to the agents to assure that their recommendations are proper, not subjectively based on their experience with the specific exporter and insure that there is uniformity in sanctions for specific offenses.

C. There are both long delays in getting Headquarters action on warning and charging letters and a serious absence of feedback to the field on final action taken by Headquarters on the agents' recommendations for administrative actions. Prior to July 1983, SFFO/OEE issued warning letters directly to the violators. In July that policy changed. The field

offices were directed to send their draft warning letters to Washington for approval. OEE Headquarters and the Office of General Counsel now review the letters and issue them directly to the violators. At the time of our inspection visit, SFFO/OEE had not received back copies of any of these outgoing warning letters; they did not know if and when they were sent out nor in what form. OEE agents could not properly follow up with the exporter on any warning letter or include the letter in the case file for later reference in the event of further infractions. The agents also need a copy of the final warning letter to properly close out a case. (We understand this problem was discussed at the SFFO training session which was held following the OIG inspection. Corrective action was promised by Headquarters.)

Similar problems exist with headquarters' handling of the charging letters. We were advised it takes an inordinate amount of time to get final action on a charging letter and administrative sanctions. Once the final decisions are made on specific fines and penalties, the field office is often not notified of that action or does not receive a copy of the final charging letter and order.

There is a need for ITA and the Department to take a look at expanding its use of administrative enforcement actions and strengthening the operating system whereby decisions are made on these actions. One possible option may be to have a centralized office in OEE Headquarters handle all administrative actions once they are referred from the criminal investigators. This would free criminal investigators to do what they do best, and give one office the responsibility and mandate to develop and operate a strong administrative remedies system which should be an effective part of any export enforcement system.

The OIG inspection team asked Customs how that agency handles their administrative sanctions. The San Francisco Customs Office told us that once criminal prosecution is ruled out or otherwise precluded, the case is immediately referred to a separate office of Customs -- Fines, Penalties and Forfeitures -- for administrative action. This may be an approach that the Department should consider.

VI. STAFF CONCERNS

The strength of the SFFO -- the swift development of prosecutable cases -- appears to have ridden on one primary factor: the quality of the SFFO agents: their experience, ability and, above all, their motivation to apply their skills diligently.

These fortuitous circumstances may end. The agents may leave, for two reasons:

1. Law enforcement authority may not be forthcoming; and,
2. The office's impacted grade structure leaves no room for promotion.

Of these two reasons, the authority issue is most important. All agents stated that they would seriously consider leaving if they foresaw no granting of law enforcement authority for themselves. No one stated that they would leave because of lack of promotion potential but such lack of support exacerbates their sense of futility.

If many of the staff left, it would probably be difficult to replace them with agents as qualified or dedicated.

VII. HEADQUARTERS DIRECTION AND GUIDANCE

Headquarters direction and guidance to the SFFO are insufficient. Guidance which the agents require is often either missing or misdirected. SFFO either establishes its own policy and hopes for the best or works around awkward requirements. SFFO agents have requested, but did not receive, guidance from Headquarters on the following topics: consensual monitoring; format for report writing; limits in the use of the imprest fund; the application of the 12(c) provisions; administrative subpoenas; property detainments; purchase of equipment for a "sting" operation.

Where guidance has been issued from Headquarters, it has caused problems in at least one instance. Headquarters recommended the use of checks, payable to the informant, an indiscreet arrangement which limits the utility of the confidential fund.

There is also a lack of coordination between SFFO and Headquarters. After SFFO opened a case on a subject, Headquarters opened a case on the same subject, apparently unaware of the SFFO action. As standard procedure, the SFFO does not coordinate with Headquarters on the leads it receives directly from local businesses. Such coordination should take place between all OEE offices to avoid duplication of effort and to share investigative information where appropriate. The reason for less than adequate guidance and coordination from Headquarters may be the preoccupation of OEE senior managers with Congress, Customs, and other outside parties in trying to maintain and increase OEE's role in export enforcement. Also, the Deputy Assistant Secretary's staff is perceived as lacking first hand knowledge of the fundamental tasks and methods of operation of investigators. While these causes are speculative, they merit consideration in the process of trying to solve the guidance and coordination problems.

No Overall Export Enforcement Strategy

The inspection team was surprised to learn that the SFFO SAC and agents were unaware of any national export enforcement strategy which had been developed to slow the illegal leakage of U.S. high technology. SFFO was unaware of the studies conducted by the U.S. intelligence community to identify the USSR's strategy, specific targets and techniques to illegally attain U.S. high technology. They were also unaware of any counter-strategy which had or was being developed by the U.S. Government to prevent this leakage. The SFFO has received no counsel from OEE Headquarters on the overall U.S. enforcement strategy or on Soviet targets and techniques for gaining illegal U.S. exports. They should. This knowledge of Russian strategy, patterns of behavior and operations could prove helpful in their handling of SFFO cases which may involve some of the same tactics, principals, diversionary routes or targets identified elsewhere.

VIII. ADMINISTRATIVE MATTERS

A. Imprest Fund

The inspection team performed a cash count and verified the various outstanding obligations and advances. There were no discrepancies found. However, we are concerned that:

- There is a lack of internal controls over the imprest fund in that no unannounced verifications of cash balances are performed as required by Section 1008 of the manual of procedures and instructions for cash.

- A review of vouchers paid from the imprest fund disclosed disbursements in excess of $150.00 for single transactions were made without written authorization from the disbursing officer as required by Section 0701 of the manual of procedures and instructions for cashiers.

- Our analysis of imprest fund transactions indicate that the fund was established in December 1982. Based on reimbursements requested in the past eight months, the average expense paid out of the imprest fund is about $300.00 a month. This was due to some purchases of fixed assets. Since the office will no longer purchase these assets, the fund could easily be reduced from $500.00 to $300.00 without impairing its usefulness.

B. Confidential Fund

A $1,000.00 confidential fund was established in March, 1983. There have been no disbursements except for $6.60 in bank charges for printing of checks. This amount was returned and credited in August 1983. As of August 2, 1983, the fund balance was still $1,000.00. Since there were no disbursements

for the past nine months, it appears the organization does not need the fund. The SAC does not anticipate use of the fund due to procedural restrictions imposed by OEE headquarters which state:

> "Checks to confidential informants shall be made payable to the confidential informant." Alternative payment procedures which allow an informant to be paid in cash are cumbersome, time-consuming and self-defeating.

C. Time and Attendance

Time cards are not signed by a supervisor.

D. Security Clearances

At the time of our inspection, specific agents of the San Francisco OEE had been granted clearance to permit access to information and material up to and including "Secret." OEE agents need to have access to information in connection with their mission up to and including "Top Secret." The majority of agents interviewed had previously been granted "Top Secret" clearances in connection with their former positions. These clearances can usually be transferred or updated with little additional time or expense to the agency.

E. Travel

We found that travel policies and procedures are administered appropriately. A limited review of travel vouchers revealed no problems.

F. Overtime

We detected no problems regarding the use of overtime.

IX. OTHER MATTERS

A. In-House Legal Expertise

The inspection revealed that the SFFO investigators would benefit from having direct access to designated attorneys (or other experts) who have a detailed knowledge of the Export Administration Act (EAA) and regulations. One AUSA mentioned to our inspection team that two OEE investigators he had worked with on a recent case "did not know the law" and "needed legal support." Some OEE investigators said they need more timely answers to questions concerning interpretation of the export law and regulations so that they can react accordingly in the field and not waste the time of an Assistant United States Attorney. A few of the SFFO investigators are extremely knowledgeable about the Act and regulations, but they are not

always available to answer the questions of the other investigators. Although there are now one or two attorneys in the Office of General Counsel who generally handle requests for legal opinions from OEE investigators, we were told that their responses have been either nonexistent or slow. Additional legal support should be provided, if possible.

B. Postal Inspections

The U. S. Postal Service keeps records of mailings which only postal inspectors have access to. An agent in SFFO, a former postal inspector, had arranged a meeting in Washington, D.C. with the Postal Service to discuss OEE access to Postal Service records. The SFFO agent had planned to review USPS export and import declarations to identify mailing and operating patterns of illegal exporters. On September 9, 1983, the SFFO agent was told to cancel the meeting with the Postal Service because the Office of General Counsel was going to pursue the matter. SFFO office has heard nothing since.

Since access to Postal Service records would assist investigations, OEE should follow up to explore a cooperative effort with the U.S. Postal Service.

C. Office Equipment

The work flow in the office is impeded by a faulty copying machine and lack of a word processor. The copying machine is a bottom-of-the-line xerox. It is slow when it is working well, but often quits altogether, or worse, destroys any original document it is copying. There is a heavy copying workload, and the troublesome machine extends the time required to get work done. Sometimes copying which should be done is not done, leading to such problems as not having a copy of an investigative report available because the Assistant U.S. Attorney had to have the original before a copy could be made.

When the xerox machine destroys a typed original, there is no word processor available to quickly reproduce the original from document storage. The original has to be re-typed all over on an IBM selectric, the only machines available in the office. Typing workload is heavy. With only one clerical person on staff, the result is many agents doing their own typing to the detriment of direct investigative time.

RECOMMENDATIONS

1. OEE should continue to pursue several paths at the same time to resolve the law enforcement authority problems of OEE agents. These include:

    a. Obtain from the Department's General Counsel a written opinion on the OEE agents' law enforcement authority. OEE may want to forward this opinion from Secretary Baldridge to Justice for concurrence.

    b. Disseminate to OEE agents materials which discuss the issue of tort claim immunity for Federal employees, as well as the regulations issued by the Department of Justice on when they will defend a Government employee in a lawsuit based upon his or her official conduct.

    c. Actively pursue passage of legislation giving OEE agents law enforcement powers and authority.

    d. Continue to pursue Special Deputy or Deputy U.S. Marshal law enforcement authority by executive action, if legislative authority is not imminent.

2. OEE and ITA should aggressively pursue negotiations with the U.S. Customs Service to complete a memorandum of understanding which will delineate the export enforcement responsibilities and jurisdictions of the two agencies, including domestic and overseas investigative work. It should provide a framework in which OEE and Customs can resolve problems, tensions and duplication of effort which have been outlined in this report.

3. In addition to seeking a signed memorandum of understanding, OEE should take immediate action to reduce tensions with the Customs Service, especially in the San Francisco area. This means a deliberate effort by the managers of both agencies to de-escalate the interagency rivalry at all working levels. Specifically, in the San Francisco area, OEE should actively work with the Customs Area SAC and the Assistant Regional Commissioner for Customs Enforcement to reach agreement on improved SFFO/OEE-Customs cooperation and support. This includes renewal of Customs warrant assistance on OEE cases, agreement on investigative jurisdictions, better exchange of case information and leads, and stronger case management on joint cases.

4. A number of recommendations are made to improve ITA/OEA's licensing operations. These include:

    a. Necessary changes should be made in LARS to ensure that the most current license information is readily available and distribution licensing information can be obtained by exporter.

b. The license application screen should be fully automated.

c. Intelligence and licensing officer analysis of the screen, other licensing information and past export violations should be improved to provide OEE agents with leads on possible export control violations.

d. The licensing determination process needs to be streamlined and adequate internal controls should be put in place to reduce the susceptibility of licensing officers to improper influences. Improvements must be made to correct the following problems: (1) changing opinions from licensing officers; (2) delays in obtaining licensing decisions, certified statements and copies of licensing documents; (3) outside pressures and ITA management's actual or perceived interference in the licensing determination process; (4) deficiencies in current licensing data collection and analysis, as outlined in this report.

5. OEE and OEA should pinpoint the precise reasons for Custom's perception of inordinate delays in release of 12(c) information and take action to ensure that this information is routinely made available to Customs agents as expeditiously as possible. ITA should also review the 12(c) release policy and procedures with a view towards determining if the process is adequate to provide prompt access to all appropriate law enforcement officials, including OEE agents.

6. Higher priority should be given to the effective use of administrative enforcement actions. ITA and the Office of the General Counsel should explore ways to improve the present system, including:

a. Ensure that OEE agents, and OEE and OGC management, understand and use administrative remedies in a manner to best prevent export control violations and to strengthen future investigative cases. Administrative remedies should be a vital part of the overall OEE enforcement strategy, and not just an afterthought when criminal prosecution does not work out.

b. Issue clear criteria and guidelines for use in determining appropriate warnings, fines and other penalties.

c. Expedite Headquarters action on warning and charging letters, and providing adequate feedback to the field on that action.

   d. Consider possible organizational changes in the handling of administrative remedies, including centralization of responsibility.

7. OEE should review its organizational and grade structure to create a better career ladder and promotion potential for its best agents, if at all possible.

8. OEE Headquarters should develop written policies, guidelines and procedures for use of all OEE investigators and operating units. OEE agents and staff should not continue in an ad hoc operational mode. Improved support and coordination between OEE Headquarters and the field are also needed.

9. OEE Headquarters should provide appropriate information and guidance to the field on the overall national export enforcement strategy, including specific Soviet targets and techniques to illegally obtain U.S. high technology and other exports.

10. Improve in-house legal advice to OEE agents. This could be accomplished by designating one or two OEE or OGC attorneys (or other experts) with detailed knowledge of the Act and regulations to expeditiously handle inquiries from OEE investigators.

11. To correct imprest and confidential fund problems, OEE/SFFO should:

    a. If possible, designate another employee as cashier and the SAC should perform unannounced verifications of cash balances, as required by Section 1008 of the manual.

    b. Account for all fixed assets purchased out of the imprest fund and add them to the inventory list of accountables.

    c. Reduce the imprest fund from $500 to $300.

    d. Either redesign the confidential fund to more readily allow for cash payments, or eliminate the fund and return its contents to the Treasury.

12. The SFFO SAC should certify time cards.

13. Security clearances of agents should be upgraded to TOP SECRET.

14. SFFO's office equipment should be upgraded if at all possible. This includes providing a word processor and a better copying machine.

Senator **Nunn**. The report had several positive things to say about the San Francisco field office. First of all, they stated that the office is staffed with highly qualified well-motivated investigators. Second, the investigative reports are timely, thorough, and substantive. Third, viable law enforcement training and equipment are being provided for agents. Fourth, working relationships between the team leaders and staff are very good.

I am pleased to note all of these improvements, and some of them are directed exactly to the points we were critical of, which you referred to as improving. As one of those that was most critical of previous Commerce Department efforts, I want to call that to the attention of the people who are interested in this area because I think that is something you ought to be commended for. I am sure, Mr. Wu, you had a good deal to do with that.

There are still some areas that need improving, according to that IG report, and I want to go into a couple of those.

One of the criticisms had to do with the level of cooperation between Customs and Commerce, quoting directly from the IG report, "First, lack of law enforcement authority seriously impedes effective enforcement of export controls by the San Francisco Office of Export Enforcement." I assume that is lack of law enforcement authority by your Commerce Department.

Mr. Archey, do you want to respond to that?

[At this point in the hearing, Senator Chiles entered the hearing room.]

Mr. **Archey**. I would and I would like Ted to join in I think the San Francisco office situation is a bit unique because of the fact the U.S attorney's office has required that all enforcement actions must be in conjunction with Customs because of lack of ability of authority to issue search warrants. And they made some other points about the coordination on information, et cetera.

I think the issue of our inability to have search warrant powers has, in fact, impeded us. I don't think it has ever prevented us from going in—for example, the concern that evidence will be destroyed, we have no evidence to indicate that has been the case. In fact, we do feel that having appropriate enforcement authority to efficiently perform our mission is important.

Ted, do you want to add to that?

Mr. **Wu**. Senator, as you will recall, back in May 1982 when your subcommittee conducted the hearing and subsequent findings, I mentioned to your very competent staff—Mr. Asselin and Mr. Fry—when they interviewed me when I was Assistant U.S. attorney in California, that the basic police powers are very helpful to any law enforcement organization, especially in an area involving national security and export.

While it is true that as our performance record reflects, that the current lack of such powers hasn't necessarily impeded us, I believe that our efficacy can be further strengthened and improved if we have those powers and, thus, consistent with the findings of the IG's report as to the need, and to the finding of the subcommittee as to the need. At the very first stage of our reestablishment of the export control emphasis in the Department of Commerce, as early as December 1982, we initiated steps to procure basic law enforcement power through the various channels, administrative, as well as contemplating possible legislative measures.

In that respect, we wrote to the Justice Department and we also wrote to the U.S. Marshals Office asking for temporary deputizations as an interim measure. As far as whether or not the lack of such power could, in particular situations downstream, impede a particular operational situation, I would say that there is a distinct possibility that such a situation could happen.

For example, right now, if we need to execute searches, we would have to consult with the Customs Service and the U.S. Marshal and possibly the FBI if we were operating jointly with the FBI on a mutually interested situation. Assuming that all plans were properly made, still we would not be able to meet a last minute change on the part of the offender, should they want to export somewhere else, should there be other unexpected things.

I think it is good sense for OEE agents to have police powers from the standpoint of efficiency and from the standpoint of agent morale. These agents, as shown by their performance, are qualified experienced agents and they do not want to be treated as second-class citizens, and I think it would be very difficult for us to continue to maintain high morale and retention of these qualified and well-experienced agents.

Senator NUNN. Speaking for myself, once we solve this whole question of who is going to do what in this Commerce/Customs area if, indeed, Commerce does end up with a permanent law enforcement-type duty in export control, I would agree with you. I am not prepared to agree with you until that is solved.

As you know, there is considerable difference between the Senate and the House in that respect at this stage, and until it is resolved—but we have been through the same thing with the Labor Department.

Mr. WU. Yes, Senator.

Senator NUNN. Now there is very great difficulty in being able to carry out their quasi-law enforcement responsibilities in some of the areas involving organized crime without having that law enforcement authority. At some point, depending on the outcome of all of this, I may be willing to address that.

Have you, indeed, asked for any law enforcement authority through the administration?

Mr. WU. That issue was not addressed with respect to proposed legislative measures.

Senator NUNN. Is the Commerce Department seeking that authority through the administration?

Mr. ARCHEY. The Department, as you just noted, is looking at it in the context of overall enforcement authorities and Labor is one that is cited, and the Justice Department is looking at it across the board.

Senator NUNN. The next question I will ask of you, Mr. Archey, and then Mr. Walker, the IG report also said:

> Coordination and coooperation between the Office of Export Enforcement and Customs Service in the San Francisco area are not good. Immediate aggressive leadership and action are needed from both agencies to improve working relationships and eliminate or minimize the problems arising from the same or from the inherent

interagency rivalry generated when two agencies have the same mission and overlapping responsibilities.

Mr. Archey, this was a September 1983 report. How do you respond to that at this point?

Mr. ARCHEY. I responded rather quickly when I got that report.

Senator NUNN. Again, this IG report is out of the Commerce Department.

Mr. ARCHEY. I brought in all three directors of the field office and even though it was only directed at one office, I had all three in. I had them all read the report and said, "You know, you guys don't have to repeat all the screwing up we are doing, and pissing and moaning we are doing at the headquarters; why don't you work right at the local level."

No. 2 is, what I said was that we are going to be clear about how we work, and we are not going to wait for an MOU, and we made some personnel changes that I think have improved.

We will be having relatively soon a new director in the San Francisco field office. I think the MOU is going to help.

Senator NUNN. You told him to do as you say and don't do as you do.

Mr. ARCHEY. I said don't follow this example is what I basically said. I should have said it in a much more pristine way, but the point I would get at is, whenever these come before me, I don't think there is any reason to do it that way, and we are going to not only put in a new director, the fact is, we are going to have this exchange of cases that will probably have a lot of effect at the local level.

The other thing is that Customs is a much more decentralized organization, in terms of investigations, than we are. Having been at Customs, these things are not unusual in terms of that kind of turf thing. It has been exacerbated by the fact that our people, as Ted has alluded to, have had a feeling that because of lack in some of those enforcement authorities that they are the junior varsity.

I think when this thing ends up in terms of legislation, and the President's directive 2 weeks ago, I think these things are going to go away.

Senator NUNN. Mr. Walker, how would you respond to the IG report as of September 1983? Is that still the case, as you see it, out in the field?

Mr. WALKER. My understanding is that the situation has improved. First of all, there was a personnel change in that office, and the special agent in charge now has specifically addressed the problem of cooperation. So I think the information may be a bit outdated, as we view it today.

I continue to believe that as we work more closely together—and our discussions are frank and full at the headquarters level—that we will uncover these problems and address them as they occur. We are working closely with Commerce now to try to resolve the differences, as I alluded to in my testimony. I think this will improve cooperation across the board as it filters down to the field.

Senator NUNN. Another finding of the Commerce Department IG report was that the Office of Export Enforcement operational policies and procedures are generally nonexistent. The few that exist are communicated to the field in a piecemeal manner.

Mr. Archey, how do you respond to that?

Mr. ARCHEY. When I saw that, that was the one finding for which I brought in all of the field directors. It was a mixed bag. Some did not agree; two of the other directors did not agree with the person from the San Francisco office.

We have, in fact, a series of policy and information directives. We are putting out this month an agency review that deals with all those existing things and operational guidance. We have also gotten into the mode of dealing with a much more focused strategic strategy as to what we are going after and what good cases have been articulated subsequent to those findings. We have had, in fact, a week or 2 weeks after the report came out, we had a 2 week special program for our agents and for the heads of the field offices to deal with those issues and to also invite their participation in the formulation of our own priorities in headquarters because the people in the field have a very good sense of what some of the problems are. That has been incorporated.

I think there may have been also a little bit of concern about the fact there may be some policies they didn't like in terms of disbursements, in terms of confidential funds and things along those lines.

In terms of policies dealing with what are the priorities, I think that is clear now.

No. 2 is I think they are very aware of operational issues. There was also some concern about getting cars and getting the authority to buy them and then have to lease them and then there was a delay in getting those. Those all got compounded, all got kind of incorporated into the same bag.

I think all of the concerns that were raised in that area have been addressed, and I think they have been addressed directly and systematically, and some of our priorities were changed as a result of that 2 day meeting I had with the directors of the field offices.

Senator NUNN. The Inspector General report also comments on something Senator Chiles and I have been very involved in and that is the whole question of whether we should really have two agencies out there on export control matters as opposed to licensing.

On that point, the report says, and I am quoting the record:

> If both agencies, Customs and Commerce, did not have the mandate to do so, it is unlikely that the present dual enforcement system would be proposed as the most efficient and effective way to get the job done.

Continuing the quote:

> There is no apparent reason for both the Commerce and Customs to be involved in export enforcement. One agency could do the job just as well or better than two given the necessary manpower, authority and resources. After witnessing the increasingly strained relations between Customs and OEE agents working in export control cases, this conclusion is even more apparent.

Of course, that was exactly what our subcommittee found in our hearings and our recommendations followed from that finding. Mr. Archey, how do you respond to your own Inspector General's report on that?

Mr. ARCHEY. It is always nice to be bagged by your own Department. I totally, 100-percent disagree with that, and told the IG's Office because I don't think they knew what the hell they were talking about. I will say why and I said it yesterday in a hearing. I would submit to you that the coordination problems that would ensue, whether the licensing function is in Commerce or in some other department, the licensing function, given its mission, has to have an enforcement arm. It has to have an ability because most licensing decisions have an enforcement implication.

Senator NUNN. Why is that not true in the State Department with their licensing provisions on the military side?

Mr. ARCHEY. I will tell you, I think there is a very big difference. First of all, OMC list is much, much——

Senator NUNN [interposing]. What does that mean?

Mr. ARCHEY. Office of Munitions Control. You are talking pure weapons, pure military. The size of the list they deal with is dramatically smaller than what the dual-use commodity control list is. Second thing is, it already is in control in terms of who produces them, compared to when you talk about how many integrated circuits are being produced, and how many companies are producing them in this country, or producing various kinds of computers versus people who are producing pure weapons-related systems. I think the third point in terms of difference is that the licensing label of OMC—I am not sure what the numbers are now, it is dramatically less than what we had. We licensed about 95,000 applications last year. In February of this year we were running annualized at a rate of 140,000 and it is getting bigger because I would submit one of the biggest factors, maybe not the biggest but an important variable, has been the Exodus Program that John alluded to.

I think a lot of companies that didn't know they needed licenses are not starting to come into the licensing process. Two, I think we are getting people in the licensing process who normally wouldn't want to get in the licensing process, but they are afraid they are going to get caught by Customs on an outgoing inspection. A lot of it is people who didn't know they required a license.

I think the other point I would like to make is that in terms of how the function is done, how it is conducted, prelicense checks, it would take months if the program were separated for somebody to get used to knowing how to get those license checks—which consignees, which customers, to even determine that you ought to have a prelicense check.

No. 2, Senator, I would say this in terms of our internal thing, it has taken us—Ted, and me, and some of the people on the licensing side—it has taken us a good part of the last year to bring the licensing and enforcement function together so we can have this joint analytic group with engineers looking at applications along with investigative people.

I also would say to you that in terms of the ultimate coordination of should this be licensed or not, if it is in a separate department, I think you are going to have enormous problems.

Last, I think what it will do is, an organization that has an enforcement function and different organization that has the licensing, there is going to, I think, be a tendency to go one of two ways. The enforcement organization is going to become extremely cautious about what gets licensed and there is going to be in turn enormous delays for legitimate clear, above-board licenses in trade.

Or you are going to have a problem in which a lot of things get licensed because it didn't get that review—this isn't saying anything about Customs, I am saying wherever that would be. I am saying I think on the basis of the experience of the last 2 years of our Department whereby for the first time we are seeing how, in fact, symbiotic that relationship is between enforcement and licensing. I think if that were to change now, it would be the ultimate detriment to the national security, and I think simultaneously to the detriment of the national security, and I think would dramatically, at least over the short term, impede legitimate trade.

[At this point in the hearing, Senator Chiles withdrew from the hearing room.]

Senator **NUNN**. Mr. Walker, what do you say to that Inspector General finding?

Mr. **WALKER**. The President has made a determination that we would pursue, in effect, a dual agency——

Senator **NUNN** [interposing]. I will just ask your personal opinion on it. I am not asking you to speak for the President or even the Department at this point, but just your view of it.

Mr. **WALKER**. I feel Mr. Archey's arguments in favor of dual-agency responsibility here are probably exaggerated a bit. I can see that a reasonable decision might also be that it could be done by a single agency, and I can see a reasonable approach being that it could be done by Customs.

I do think that with the dual-agency approach, we will work together, and we will do the best we can. That is a judgment being made by others.

As far as the Arms Export Control Act is concerned, we do carry out that function, that enforcement function. We work very closely with State. They handle the licensing function; we do the enforcement work.

Senator **NUNN**. Do you see this big distinction between the arms export area and the dual-use area that Mr. Archey makes?

Mr. **WALKER**. No, I don't. Indeed, as Customs operates, we are very often enforcing, and investigating violators of both acts at the same time. They are exporting dual-use technology, but by the same token, since they are, in effect, working for the Soviet Union, they are exporting munitions or would be exporting munitions, and very often, there is a very fine line between the two.

I think for that reason you will always have Customs involved at the border doing these kinds of export investigations. They will be doing it for the Arms Export Control Act as well as for dual-use.

As far as the licensing and enforcement function being in the same agency is concerned, we are one Government and theoretically, we ought to be sharing information completely as between departments in the same way we would within a given department.

I don't see that that is an important distinction that could be made here. Indeed, we have seen that even within a department, very often there may not be communication between the two branches, say the licensing branch, on the one hand, and the enforcement branch, on the other.

So, I don't think the arguments that are advanced for keeping licensing and enforcement in the same department are that strong myself. That is my own view. I think that licensing does imply the ability to check the license in advance and to determine whether or not the license has been honored after the shipment goes out. That is certainly an appropriate role for either the State Department or for the Commerce Department, consistent with their licensing responsibility. It doesn't entail criminal investigative work. It entails important questions, for investigations, however, and must be properly carried out by the licensing agency.

I don't think we at Treasury have ever sought to have that particular responsibility because it is so deeply tied in with the licensing function itself. We draw the distinction between the prelicensing check and postshipment verification kind of investigation and the criminal investigation of a more traditional sort than Customs is used to doing in a whole variety of fields.

Senator NUNN. Thank you, Mr. Walker. Mr. Archey, going back just for a moment to the fundamentals of what you are licensing, what is your definition as to what needs to be licensed? If you were advising a business out there, what their duty is under the current law in applying for a license to the Commerce Department for export, what is your definition of that; what is the duty of a business?

Mr. ARCHEY. That is controlled by regulation. It is explicit. Whatever is on the Commodity Control List requires a license.

Senator NUNN. Whatever?

Mr. ARCHEY. Whatever is on the Commodity Control List, there is very little administrative discretion in making that determination.

Senator NUNN. How long is that list now?

Mr. ARCHEY. If you look, there is 187—there is a grand total of 215 CCL's. Now, 187 are controlled for national security purposes, either multilaterally or unilaterally. The remainder of that difference is controlled to a different country so it may not necessarily apply to a larger universe.

If you take a look at the 187 CCL's, you are probably talking in terms of commodities—knowing it is not possible probably to even give a specific or exact answer, but you are talking hundreds of thousands of products and components and parts.

Senator NUNN. If you are a small business out there just going into some advanced technology area, what is your duty under the current law in terms of where you would get the information and how much responsibility do you have under the current law?

Mr. ARCHEY. It is clearly the responsibility of the exporter to know what commodities would be covered. One of the major vehicles that they would discover is the Commerce district offices where—frequently that is where they go, they get copies of the regulations, and they get advice from people who know the Commodity Control List reasonably well.

The other thing, as John mentioned, both of our organizations are doing is, we particularly emphasize more the Commodity Control List and the regulations of what is required. We have met with 1,200 companies and trade associations in the last 17, 18 months to, in fact, convey that message.

I think what we are seeing is now—and I think this is shown in Exodus—the detention rate and seizure rate is getting higher because, in fact, now when people are being stopped, they are being stopped legitimately because they needed a license and they should have known that.

And I think the ignorance, if you will, that was prevalent, pervasive in particularly the smaller companies 2 years ago is not there anymore.

Senator **Nunn**. Did you take any of your resources from the licensing end to put in the enforcement end?

Mr. **Archey**. No, sir; they were all additional hires from outside.

Senator **Nunn**. You said you did some shifting around.

Mr. **Archey**. From other aspects of the International Trade Administration.

Senator **Nunn**. Not from licensing?

Mr. **Archey**. No; trade development, international policy, and others.

Senator **Nunn**. I want to thank both of you for appearing today. I think it has been a very helpful morning of testimony. I appreciate both of you speaking with clarity and with candor. That has been enormously helpful to the subcommittee.

Mr. **Walker**. Thank you very much, Mr. Chairman.

Mr. **Archey**. Thank you.

Senator **Nunn**. All three of you, Mr. Wu, and also thank you to your assistant.

Our next witness is Mr. Larry Sumney, executive director of the Semiconductor Research Corp. Mr. Sumney, we swear in all witnesses before the subcommittee. Before you take your seat, after you get settled there, if you will hold up your right hand.

Do you swear the testimony you give before this subcommittee will be the truth, the whole truth, and nothing but the truth, so help you God?

Mr. **Sumney**. I do.

Senator **Nunn**. Mr. Sumney, we already have your testimony; in fact, I read it and quoted from it yesterday in questioning some of the other witnesses. You have been very cooperative. I understand you have a summary of your testimony. We would be delighted to receive that now, and we appreciate your help. Your prepared statement will be put in the record.[1]

TESTIMONY OF LARRY W. SUMNEY, EXECUTIVE DIRECTOR, SEMICONDUCTOR RESEARCH CORP.

Mr. **Sumney**. Thank you very much. It is a pleasure to be here today and have the opportunity to testify.

I should begin by saying that I am now executive director of the Semiconductor Research Corp., which is an organization formed by semiconductor companies to sponsor university research. Prior to this, I was director of the Very High Speed Integrated Circuits Program in the Office of the Secretary of Defense for Research and Engineering. The VHSIC Program was inaugurated to develop the technology for putting more capability than then existed in the commercial market, on a small chip of silicon. This was to be done in a way that was directrd toward specific military problems, such as radiation hardness and signal processing.

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[1] See p. 262 for the prepared statement of Larry W. Sumney.

As director of the VHSIC Program, I was immediately faced by opposing the objectives of pursuing the program vigorously or recognizing that our lead could be narrowed or lost if the technology were to fall into the hands of the adversaries.

The Congress stipulated in its original funding authorization for VHSIC that the technology be protected under by International Traffic in Arms Regulations, the ITAR, where appropriate. The inherent problem is that the steps necessary for technology control are those that inherently slow down the development of technology and impede its dissemination throughout our industry.

The dissemination of the technology development in the semiconductor industry is very important; from the standpoint of maintaining a competitive edge in the commercial market and exploiting innovation. So most of what we do to slow down our adversaries' acquisition of technology also, to some extent, slows down our own development.

I spent a lot of time trying to resolve this dilemma. The result was a carefully crafted set of guidelines, using various control mechanisms, to control the various facets of the hardware and the technology while minimizing the impact on program development. It was a very sound set of controls that imposed the ITAR where appropriate. I believe that the VHSIC Program management has refined the control system, although I have not seen the final result.

Guidance was issued, and all participants were thoroughly briefed on the application. As with all balancing decisions, there were those that argued what you thought was the middle is, indeed, not and you were either too hard or too soft. The decision was no exception. One constituent argued that only ITAR should apply and then only in the narrowest possible interpretion to protect the chips themselves.

The other side declared equally vehemently that we should classify the whole program. It is my perception that this argument still rages today, but I strongly feel to take either of these extreme positions would be a grievous mistake. We realize that you cannot put our most advanced technology up for grabs by our adversaries. On the other hand, we cannot bring the program to a grinding halt since one of its major objectives is to advance technology rapidly by over zealous classification. The current guidance could work. The progam is on schedule. The Government is in a position to offer specifications for VHSIC chips to military systems and subsystems houses so that they can begin incorporating them in new weapons systems.

Let's not try to fix a system that has been shown to work. The system, at this point in time, in my view, needs firm direction to resolve who is actually in charge of establishing export control policy in the area of high technology.

Senator NUNN. You are saying that the system as now operating is working in terms of licensing and export?

Mr. SUMNEY. The situation you run into with the VHSIC Program is the actual VHSIC chips do not exist yet. So the policy and guidance that I began to formulate when I was there has been in limited use and has continued to be refined. It should now be firmly established and made to work. To date, it has not seen full scale use because VHSIC chips do not exist; but they should begin to be available in a couple of months.

Senator NUNN. Are you satisfied with the way the Government has handled this program from your perspective?

Mr. SUMNEY. No, about the time I was ready to leave the Department of Defense, it was quite obvious a major turf battle was about ready to begin between the policy people in Defense and the technology people.

Senator NUNN. And you were in the Navy, right?

Mr. SUMNEY. I was in OSD when I left.

Senator NUNN. Assigned to the Navy?

Mr. SUMNEY. No; I was assigned to OSD for 2 years and then hired by OSD in 1980.

Senator NUNN. As a civilian?

Mr. SUMNEY. Yes, as a civilian.

Senator NUNN. Go ahead about the raging dispute.

Mr. SUMNEY. In essence, the turf battle appeared to be between the people on the policy side and the technology people who were continuing to have the right to make export control decisions. I feel the people on the technology side are in the best position to make such decisions. This battle was just beginning when I left.

Senator NUNN. You come down on the side of those in research and engineering?

Mr. SUMNEY. I would definitely come down on that side given that there is a rational policy for them to make decisions against. There needs to be policy guidance, but once policy guidelines exist, then I think the technical people are best able to make the decisions.

Senator NUNN. Do those policy guidelines exist now?

Mr. SUMNEY. Policy guidelines do exist on the VHSIC program.

Senator NUNN. Are you talking about policy guidelines within DOD, or are you talking about governmental policy?

Mr. SUMNEY. I am talking about policy guidelines within DOD for the VHSIC Program.

Senator NUNN. You are saying the job of the Policy people in the Department of Defense should help formulate those guidelines and then coordinate with other agencies, but at that point leave it up to the research and engineering group?

Mr. SUMNEY. That is my perception. You have to have an appreciation of the technology to be able to make technology decisions.

Senator NUNN. Would you mind furnishing for the record, just sort of one sheet paper, the way you would envision the Department of Defense appropriately and effectively working in this area?

Mr. SUMNEY. Sure.

Senator NUNN. Along the lines we just discussed.

Mr. SUMNEY. Yes.

Senator NUNN. It would be helpful before we have our hearing next week to have that if we could. Not looking for 10 pages but a brief outline of how you would formulate it and, if you were the Secretary of Defense, what directive you would give in effect in terms of DOD's role in this whole area of technology transfer.

Mr. SUMNEY. OK.

[The information requested, which was subsequently received by the subcommittee was marked "Exhibit No. 5," for reference and follows:]

EXHIBIT NO. 5

SEMICONDUCTOR RESEARCH CORPORATION
300 PARK DRIVE, SUITE 215 • P.O. BOX 12053 • RESEARCH TRIANGLE PARK, N.C. 27709 • (919) 549-9333
COOPERATIVE RESEARCH

April 9, 1984

Mr. G. Fry
Permanent Subcommittee
 on Investigations
Committee on Governmental Affairs
U. S. Senate
161 Russell Senate Office Building
Washington, D.C. 20510

Dear Mr. Fry:

The enclosed text and chart is my response to the request of the Subcommittee that I present my views on how export control matters should be handled within DOD. In so doing, I am enclosing a functional flow chart which I believe was in circulation in the March to May, 1982 timeframe. I received it as an information copy and thought it quite sensible at the time.

Basically, the chart depicts in detail what I expressed in my testimony. The Policy group should be responsible for articulating policy in arms export, dual-use export and national disclosure. They should conduct policy studies and have a policy voice in domestic and international regulations. They should have the final say in individual export cases where the question is one of policy, e.g., is it our policy to convey military radars to Pakistan? By articulating policy, I do not mean giving direction on organization or implementation. Rather I mean the clear statement of policy goals and objectives that can be implemented by the technical assets of DOD.

The implementation as shown on the chart is a function of the technical side of OSD. This involves export case processing, assessments of technology, development and updating of the MCTL, technical studies in support of policy determinations and strong inputs into domestic and multilateral (COCOM) regulations. The implementation includes active participation by the Services, JCS and the Intelligence community.

I believe that this separation between setting goals and objectives and implementing the steps necessary to reach them is the only way in which the system can work within DOD. If both organizations are involved in the mechanics of implementation, confusion is unavoidable and the system will break down. Witness the proliferation of Panels within OSD to referee disputs. DOD is under statutory time constraints in export case processing. How is this time allotted to the two organizations?

Finally, I think it is important that I stress a few points implicit in my testimony last week. It is basically my contention that attempts to classify generic technology are worthless and even counterproductive. The technology of integrated circuits is not captive of the United States. In most cases, the Japanese are equal or superior and in some cases, the Europeans are also equal. Even the Chinese are advancing rapidly. If we unilaterally contain the technology, someone else will sell it to the detriment of our balance of trade.

The way to minimize the technology war is to run hard, invest and invent your way to supremacy. Any other approach of classification, trade restriction, embargo. etc. is doomed to defeat and will further undermine the industry upon which we all depend.

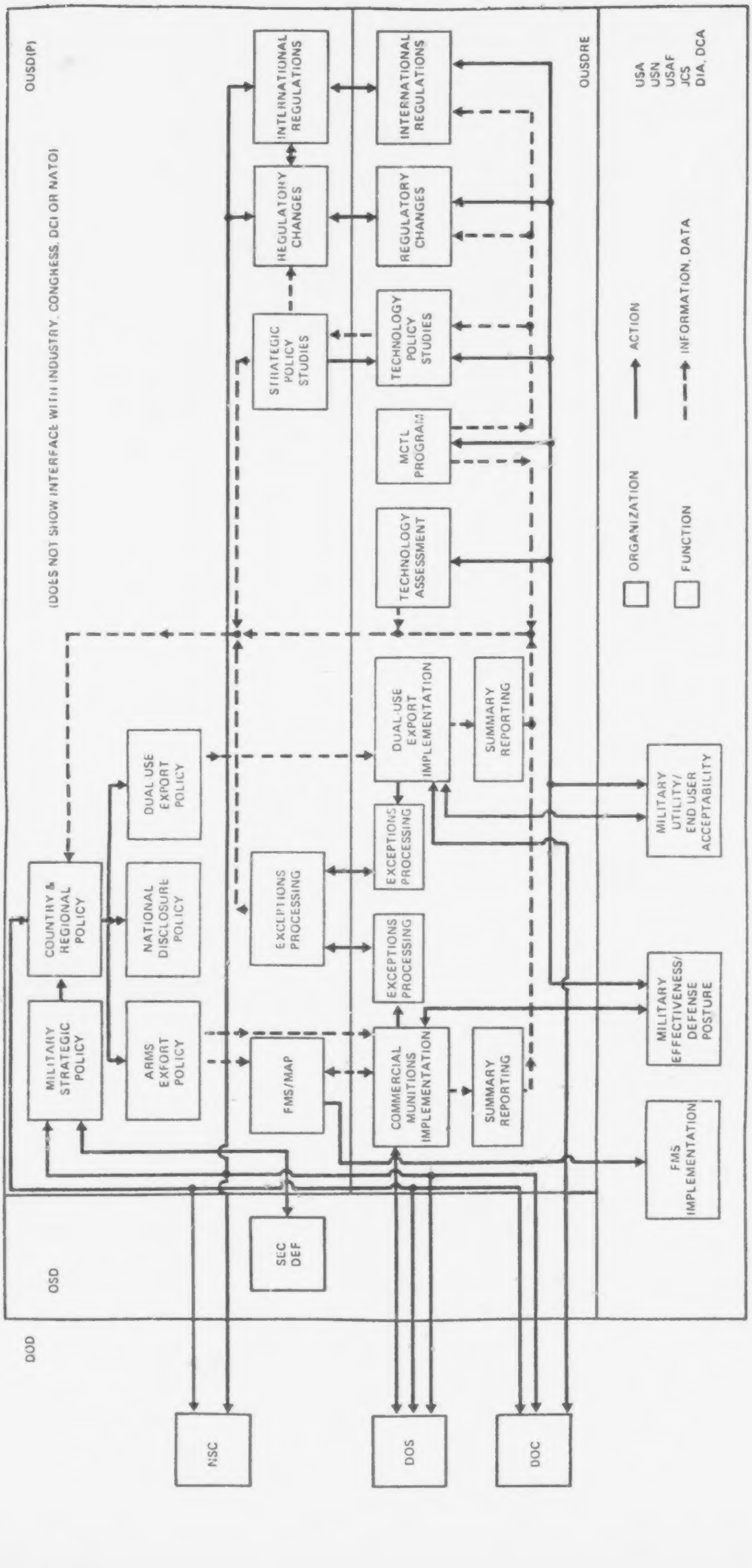
I trust that this conveys my views quite clearly and I hope that this will be of service to the Subcommittee.

Sincerely,

Larry W. Sumney jst
Larry W. Sumney
Executive Director

LWS/sdt

Enclosure


OUSD(P)
(DOES NOT SHOW INTERFACE WITH INDUSTRY, CONGRESS, DCI OR NATO)
MILITARY STRATEGIC POLICY
COUNTRY & REGIONAL POLICY
ARMS EXPORT POLICY
NATIONAL DISCLOSURE POLICY
DUAL USE EXPORT POLICY
FMS/MAP
EXCEPTIONS PROCESSING
STRATEGIC POLICY STUDIES
REGULATORY CHANGES
INTERNATIONAL REGULATIONS
OUSDRE
COMMERCIAL MUNITIONS IMPLEMENTATION
SUMMARY REPORTING
EXCEPTIONS PROCESSING
EXCEPTIONS PROCESSING
DUAL-USE EXPORT IMPLEMENTATION
SUMMARY REPORTING
TECHNOLOGY ASSESSMENT
MCTL PROGRAM
TECHNOLOGY POLICY STUDIES
REGULATORY CHANGES
INTERNATIONAL REGULATIONS
USA
USN
USAF
JCS
DIA, DCA
FMS IMPLEMENTATION
MILITARY EFFECTIVENESS/ DEFENSE POSTURE
MILITARY UTILITY/ END USER ACCEPTABILITY
ORGANIZATION
FUNCTION
ACTION
INFORMATION, DATA
OSD
SEC DEF
DOD
NSC
DOS
DOC

Senator NUNN. How long were you with the Department of Defense?

Mr. SUMNEY. I was with the Department of Defense—first of all, I was a civilian in technology from 1962 to 1982 in the Government. I was OSD from 1980 to April 30, 1982.

Senator NUNN. Did you form your own company, or is this a company you went with?

Mr. SUMNEY. This company was a new concept which is supported by semiconductor systems companies to do cooperative research for the entire semiconductor industry. We have 30 members, including IBM, Intel, chemical companies such as Mansanto, equipment companies—it is a spectrum of companies.

Senator NUNN. When you were in the Department of Defense, what division were you in?

Mr. SUMNEY. I was in OUSDRE, specifically in research and advanced technology, which is now headed by Edith Martin who just came into her job when I left.

Senator NUNN. Is that under the overall auspices of Dick DeLauer?

Mr. SUMNEY. Yes.

Senator NUNN. On page 5 of your complete statement which you summarized, you remarked the classification group, and I assume this is in the Department of Defense. You referred to lawyers, economists and political scientists, and they do not have the training or background to be deciding major licensing decisions. Will you tell us what classification group you are referring to?

Mr. SUMNEY. The group I was referring to in that statement would be the individuals in the office of the Deputy Assistant Secretary for International Economic Trade and Security Policy who report to the Assistant Secretary for International Security Policy.

Senator NUNN. And you are saying you do not believe they are qualified to make licensing decisions?

Mr. SUMNEY. No, I do not think they have the technical background to make those decisions.

Senator NUNN. Your preception is they are, indeed, making those decisions?

Mr. SUMNEY. I think what is happening is many decisions simply aren't being made; they are being held up and there has been significant delay in the process. The effect of such delay is they, in fact, do have the control by simply introducing delay.

Senator NUNN. We heard testimony yesterday that DOD, through its recent directive on technology transfer matters, will have balanced input on export control issues from Defense, Reseach and Engineering as well as International Security Policy. Do you believe this counter-balanced policy, dual responsibility will work?

Mr. SUMNEY. Senator, my own perception is, given the personalities that are involved, it would take an awful lot of effort to make it work, and I would be very doubtful it would work in the near term.

Senator NUNN. During the time you headed the VHSIC Program, did you notice a dispute beginning to take place within the Department of Defense?

Mr. SUMNEY. Yes, I did. That was just starting, I would say, in the December timeframe, say December and January of 1981 and 1982.

Senator NUNN. Was this based on policy, based on personality, was it based on philosophy or all of the three?

Mr. SUMNEY. I think it was a combination of the things. I think it was based essentially on strong personalities in policy trying to assume a more dominant position in making licensing and export decisions.

Senator NUNN. Is there similarity in the export control approach by DOD to the VHSIC program to the DOD approach with the Cocom computer item list?

Mr. SUMNEY. Well, I have to give a two-part answer to that. I think on the policy side, yes, in both cases the policy people have been overly conservative. On the technical side, I would have to say no, because I think with respect to microcircuits, there was a committee that was established that did an excellent job in formulating guidelines.

In the area of computers, I don't think the technical people have their house in order.

Senator NUNN. In terms of the jursidictional dispute in the Department of Defense, how does that play in industry in terms of the effect on industry and on exports?

Mr. SUMNEY. The problem that you have from my perspective is industry does not perceive somebody to be in charge and so there is a lot of confusion, there is a certain amount of fear and trepidation.

I think, for the most part, industry fears criticism; fears to criticize because they perceive there may be recrimination and the result, again, is delay.

Senator NUNN. Recrimination by what agency?

Mr. SUMNEY. By whoever would be put in charge eventually. There is a possibility if the wrong group gains control, there could be recrimination.

Senator NUNN. Do you believe any one agency should play a dominant role in the export control arena in licensing cases or reviewing lists or programs such as VHSIC? Do you think one agency ought to be dominant or do you think it ought to be a multiagency approach?

Mr. SUMNEY. I think there has to be some aspect of multiagencies; but, somebody has to have the ultimate responsibility. If you don't have that, if someone doesn't have ultimate responsibility, you have this interminable delay which is just unacceptable, I think, on the part of the industry people.

Senator NUNN. We had testimony from Mr. Root yesterday morning that basically expressed the view that paragraph 10(g) of the Export Administration Act should be repealed. That is the paragraph that requires the President to overrule specifically, I think, in writing the report to the Congress any DOD objection to export.

Do you have any feeling on that paragraph 10(g) of the Export Administration Act, whether it should be in or whether it should be repealed or altered?

Mr. SUMNEY. Certainly it is a powerful tool for Defense in that it gives them review and decision power subject to escalation to the President. I think when technology people are in charge, and when they were in charge, and if they felt, for instance, Commerce was not showing the concern for the national security, it was a good provision. But in the hands of people that do not have technical background and the people on the ideology side I referred to in my statement, I think it is very dangerous. It appears to be a paragraph whose execution is very strongly personality dependent, I am not sure you can come up with one that isn't. But in the hands of the people that are there now, I think it is dangerous.

Senator NUNN. We have had some difficulty in getting industry, in spite of the strongly held views by many in industry in this whole area, to come up and testify. Is there a reason for your part of industry, is there a reason for this reluctance in general?

Mr. SUMNEY. I am not here to serve as a spokesman for the industry or for members of my cooperative organization, but it is my personal perception that this dispersed authority has created tremendous confusion and, as a result, I think it is natural for industry to begin to have some degree of fear in that any criticism they might offer may result in some type of recrimination once things are resolved.

Senator NUNN. Is that fear from a particular agency or is it just in general, directed to DOD, Commerce, Customs, State?

Mr. SUMNEY. My perception is it's directed toward some aspect of the DOD, the Policy people most likely.

Senator NUNN. Mr. Sumney, we appreciate very much your being here. We appreciate your cooperation. You have been a great assistant to the subcommittee. I am going to continue to refer to your testimony to ask some questions of other witnesses. So thank you very much.

Mr. SUMNEY. If I could ask one question? When would you like that one page for the record?

Senator NUNN. Any time this week, if you could.

Mr. SUMNEY. That will be fine.

Senator NUNN. Or even early—the next hearing is next Wednesday, April 11. If we could get it Monday, that would be fine.

Mr. SUMNEY. Thank you very much.

Senator NUNN. Next Wednesday, which is April 11, at 10 o'clock, we will resume these hearings. We will hear from Ambassador Abraham Katz, Organization of Economic Cooperation and Development, Department of State. Then we will have a panel composed of Mr. Lionel Olmer, Under Secretary of Commerce, International Trade; William Schneider, Under Secretary for Security Assistance Science and Technology, Department of State; Richard Perle, Assistant Secretary for International Security Policy, Department of Defense.

Hopefully on this day, or at some other hearing, we will also be hearing from the Industry Coalition on Technology Transfer.

At this point, we will take a recess until further notice or until next Wednesday.

[Whereupon, at 12:22 p.m., the subcommittee recessed to reconvene, Wednesday, April 11, 1984, at 9:33 a.m.]

TRANSFER OF TECHNOLOGY

WEDNESDAY, APRIL 11, 1984

U.S. SENATE,
PERMANENT SUBCOMMITTEE ON INVESTIGATIONS
OF THE COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The subcommittee met at 9:33 a.m., pursuant to call, in room 342, Dirksen Senate Office Building, under authority of Senate Resolution 354, section 13, agreed to March 2, 1984, Hon. Sam Nunn (acting chairman of the subcommittee) presiding.

Members of the subcommittee present: Senators William V. Roth, Jr., Republican, Delaware; Warren B. Rudman, Republican, New Hampshire; Sam Nunn, Democrat, Georgia; and Jeff Bingaman, Democrat, New Mexico.

Members of the professional staff present: S. Cass Weiland, chief counsel; Eleanore J. Hill, chief counsel to the minority; Katherine C. Bidden, chief clerk; Mary Robertson, assistant chief clerk to the minority; Kitty Dias, executive secretary to the minority chief counsel; Sarah Presgrave, executive secretary to the chief counsel of the majority; John Sopko, assistant counsel to the minority; Fred Asselin and Glenn Fry, minority staff investigators.

[Member of the subcommittee present at the time of convening: Senator Nunn.]

Senator NUNN. The Permanent Subcommittee on Investigations will be in order.

[Letter of authority follows:]

U.S. SENATE,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
SENATE PERMANENT SUBCOMMITTEE ON INVESTIGATIONS,
Washington, DC.

Pursuant to rule 5 of the Rules of Procedure of the Senate Permanent Subcommittee on Investigations of the Committee on Governmental Affairs, permission is hereby granted for the chairman, or any member of the subcommittee as designated by the chairman, to conduct open and/or executive hearings without a quorum of two members for the administration of oaths and taking testimony in connection with hearings on Transfer of Technology, to be held on April 2, 3, 11, and 12, 1984.

WILLIAM V. ROTH, Jr.,
Chairman.

SAM NUNN,
Ranking Minority Member.

Senator NUNN. The subcommittee will come to order.

The chairman has asked that I go ahead and begin the hearings this morning, which I am glad to do. Our first witness is Ambassador Katz. Ambassador Katz is our Ambassador to the Organization of Economic Cooperation and Development.

37-784 O—84——10

Mr. Ambassador, we have a standing rule before this subcommittee. We swear in all witnesses. We make no exceptions to that rule. So if you don't mind, we will ask you to stand and hold up your right hand.

Do you swear the testimony you will give before the subcommittee will be the truth, the whole truth, and nothing but the truth, so help you God?

Ambassador KATZ. I do.

Senator NUNN. Ambassador, we are delighted you are here this morning. You are in a key position in this overall technology area and particularly in relationship to our essential coordination and cooperation with our allies in Cocom. We appreciate your coming. I know you have a tight schedule. We are going to try to accommodate you as best we can. We will be delighted to have any questions deferred until you make whatever statement you would like to make this morning.

TESTIMONY OF AMBASSADOR ABRAHAM KATZ, ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, DEPARTMENT OF STATE

Ambassador KATZ. Senator, I don't have a prepared statement. I do think it might be helpful if I sketched out my relationship to the Cocom delegation.

Some time ago, I think it was in the early 1970's, I don't remember the exact year, the question arose whether the Cocom delegate should report to the Bilateral Ambassador in Paris or to the multilateral one in Paris, and it was decided that Cocom being a multilateral organization, even though its functions were quite different from those of the OECD, that it made sense to have the delegate report to the Ambassador to OECD.

This also had some historical precedent. There used to be an organization in Paris called the USRO, the U.S. Mission to NATO and other regional organizations, based in Paris, and the Cocom representative was part of that. So since that time, since the early 1970's at least, and possibly even before that, the Cocom delegate reported to me and to my predecessors.

Now unlike the OECD where other members of the mission actually have their accreditation to the organization by virtue of being members of my staff in the case of the Cocom delegate, he is the delegate. I am not the delegate. In other words, he is not my alternate on Cocom.

Senator NUNN. You are overall and he is basically——

Ambassador KATZ. I am overall and he keeps me in the picture and he reports to me. And he advises me and I write his efficiency report. But he is the designated representative to Cocom as far as the Cocom staff and other Cocom delegates are concerned.

Senator NUNN. Who holds that present position?

Ambassador KATZ. The present incumbent is John Spillane, a very good Foreign Service officer.

Senator NUNN. How many people does he have working directly for him and how many people in the Cocom area rather than in the OECD area?

Ambassador KATZ. Just in the Cocom area, one more officer, and he has had some secretarial help. Sometimes it is one, sometimes it is two secretaries. There is a mass of paperwork to process.

Senator NUNN. That is a very small staff.

Ambassador KATZ. It is very small. But normally that is quite adequate. They are busy, but it is adequate. The problems arise during the list review. We are in a list review right now. But John is aided and abetted by large delegations from Washington who come for various parts of the list review, and he presides over those delegations. He handles about 80 percent, roughly, of all meetings having to do with the list review.

Senator NUNN. Your responsibility, then, is much broader but Cocom is a part of your overall responsibility?

Ambassador KATZ. Yes, sir.

Senator NUNN. How much of your time personally, Mr. Ambassador, do you spend on Cocom matters? Just Approximately?

Ambassador KATZ. It varies. Sometimes not more than about 5 percent of my time. I like to be in the picture. I want to know what's going on. More recently there are times when I spend maybe 80 to 90 percent of my time when there is a bit of a problem that John brings to my attention. That does not happen very often. I would say it doesn't—it is a major exception when that takes place. So I do like to keep informed, but it doesn't take too much of my time.

Senator NUNN. Would you describe for us, briefly, your larger duties in the OECD?

Ambassador KATZ. Well, the OECD, the Organization for Economic Cooperation and Development, is our principal forum for consultation and cooperation on a broad range of economic policy matters, with the other industrialized democracies.

There are 24 member countries. They include all of the countries of Western Europe, Canada, the United States, Japan, Australia, and New Zealand.

The OECD has a large variety of committees that cover the waterfront in international economic policy, ranging from the Economic Policy Committee attended by Marty Feldstein, the Working Party on International Monetary Affairs attended by Beryl Sprinkle, our so-called executive committee in special session attended by Allen Wallis, going down to trade, development assistance, environment, the whole waterfront, the whole range of economic affairs.

Senator NUNN. What kind of staff would you have working for you in that overall area?

Ambassador KATZ. I have a total staff of about 53.

Senator NUNN. How many of those people——

Ambassador KATZ. John and his assistant are included in that staff.

Senator NUNN. How many of the 53 would be clerical and how many would be professional, approximately?

Ambassador KATZ. About 60 percent, roughly, to my recollection, are professional, and they are mainly Foreign Service officers, but we have two Treasury officials, we have AID, USIA, the Economic—EPA, Department of Energy. We have a wide variety of representatives on our staff. But they participate in an integrated mission.

Senator NUNN. Without getting too far afield from our subject of the hearings which is technology transfer, and I will get back to that in just a moment, just as way of background, for instance we have a London Summit Conference coming up between the leaders of the Western World. How much would your OECD organization get involved in that in terms of laying the ground work or perhaps identifying issues or even doing some preliminary negotiating? Are those two correlated at all?

Ambassador KATZ. Not officially and specifically. But it is quite clear that the Summit, Economic Summit, meetings have picked up almost all of the work of the OECD in their activities. The OECD's work starts at a very technical level and works up to the subcabinet level and to the ministerial level. Obviously the summit meetings are even higher than that. But if you compare the ministerial, the last ministerial communique of the OECD in May to the Williamsburg Summit communique, you will see that the Williamsburg Summit essentially picks up the same themes, of course I would say in a more punchy and political way.

[At this point, Senator Bingaman entered the hearing room.]

Essentially while there is no integrated or organic connection between the two, the two institutions—actually the summit is not officially an institution—work on the same subject matter; and one, the OECD, is informally an important staging area for the summit. In an area that concerns you very much, East-West matters, the OECD and the IEA, prior to the last summit meeting, did some very important work on overall East-West economic relations, and the IEA did some very important work on the East-West energy relations. And as a result, the Williamsburg Summit was able to spend, as I was informed, only about 15 minutes on the whole subject of East-West economic relations, which had been a very contentious issue in the preceding year.

Senator NUNN. Getting to Cocom and technology transfer, how much experience prior to your present position have you had with Cocom? Could you give us a little bit of background on your own career in respect to Cocom?

Ambassador KATZ. Well, prior to that, prior to my service as Ambassador, I did serve as Deputy Chief of Mission to the OECD from 1974 to 1978. We had a noncareer Ambassador, but I maintained the same relationship with our Cocom delegation as I do now.

The Cocom delegation would report to me as the Deputy Chief of Mission and kept me informed and I was involved in their major problems. At that time, our problems were not those of a list review but specific case problems. And that is how I was involved at that time.

Prior to that, I have not had a direct relationship with Cocom, but I have been aware of its activities for many years. One of my specialties in the Foreign Service has been Soviet economic affairs and Soviet economic relations with the Western World.

Senator NUNN. Mr. Ambassador, turning to some of the organizational problems as they relate to cases, do you consider the Computer Item, the overall Computer Item, to be the most important part of the embargo list or control list in Cocom?

Ambassador KATZ. Certainly it is an important item. The judgment as to whether that is more important or how much more important than the rest of the items is a highly technical question.

Senator NUNN. Certainly at the top of the list of priorities then.

Ambassador KATZ. It is very high on the priority list and I would say it is the make or break item in a list review. We have been very successful so far in the list review dealing with a large number of new technologies that just weren't around for the last list review. And all of those items have been for the most part satisfactorily dealt with. The Computer Item is one of the major components and is an issue that remains to be dealt with. I think that we will know that we have had a successful review when that item is satisfactorily dealth with.

Senator NUNN. Do you have meetings coming up in May on that Item?

Ambassador KATZ. Yes, sir. And, Senator, at this point, I should say we are beginning to move into sensitive ground. Cocom is a confidential organization. Our Allies are extremely sensitive to the fact that whatever goes on in Cocom has to be kept within that forum. All matters pertaining to negotiations that take place in that forum are classified, and our Allies actually hold us to it. Quite aside from the fact that they are sensitive about this issue, I might say that what we are talking about are strategic trade controls with direct military implications. And both from the point of view of our Allies and from the point of view of our own national security it would be very awkward for me to go into any details about any matter under negotiations in Cocom in public session.

Senator NUNN. Well, I am going to try to elicit from you our position substantively that we are now about to negotiate, but I think as a way of background as to how we arrive at decisions and the various procedures of departments and how they interrelate with you, I think it is absolutely essential that we get into that. So I think we will just have to take it question by question and then be advised by you on this.

Let me show you, Mr. Ambassador. We have some testimony coming a little later this morning. It is my understanding that all of these statements have been cleared. This is testimony of Under Secretary Olmer in the Commerce Department. If I can get staff to show you pages 2 and 3 of his testimony, without reading it to you, it gives you an idea of the detail in which we are going to be discussing this this morning.

[Handing to witness.]

Senator NUNN. If you would just take a look at the bottom of page 2 and page 3.

Ambassador KATZ. Well, Senator——

Senator NUNN. It seems to me that is a considerable amount of detail.

Ambassador KATZ. It certainly is. I would have hoped that Lionel would have avoided that detail, especially the listing on the bottom of page 3. I specifically went over that type of question with John Spillane before coming here. He prepared some remarks that cited——

Senator NUNN. I don't know whether those statements have been given out or not. I would be delighted to have you all take a look at that if they have not been. If they have been given out then it is beyond my control. We haven't given them out as far as I am concerned. It seems to me we have to get into this in some detail. If we do not, and I am not talking about the substance but the procedure, if we do not, we are not going to be able to get to the bottom of this. If everything were working smoothly in the U.S. Government and we had a smooth team work approach between all of the departments, then we wouldn't be sitting here today. There are areas that Congress makes worse in foreign policy. I understand that. I believe I am confident in saying I don't believe there is anything we can do to make this one worse in terms of disputes between departments and so forth. So I am rather confident that whether we get into these hearings and come out with recommendations, we may not cure the problems, but I don't think we are going to cause any that aren't already existing. So with that background I would ask the Commerce representatives to take a look at this particular list. If statements haven't been given out I would be delighted to have you all confer. I don't want to do anything to get into the substance of what we are going to be talking in May with our Allies.

Let me get into general questions with you. What in your view has been the major areas in which there have been problems in the United States view with Cocom? Where have you run into difficulties in trying to represent the U.S. position in this international forum?

Ambassador KATZ. Well, for the most part, I think we can safely say that we have had a tremendous success in the period beginning with the first high level meeting of Cocom in January 1982, I believe. Since that time, we have—and I have to pick my words very carefully since we are in open session. If you look at the press release for that first high level meeting, Senator, you will see that practically nothing was given to the public. And I cannot in public session go into the accomplishments of that meeting or of subsequent meetings, except in the most general way.

Senator NUNN. I am really just asking you in a general way what has been the problems in terms of the U.S. negotiating position? I am not asking you what the Allies said, what they thought, or any of that. Just from your point of view in trying to coordinate our efforts, what has been the problems you have run into from the U.S. position? I am not talking about substance.

Ambassador KATZ. From my point of view, the most important problem that I have run into in a negotiation that takes place under my general jurisdiction is that in a few exceptional cases our delegation came to meetings without negotiating positions. And I want to stress that this was in a few exceptional cases. By and large that list review is almost over and successful, from a U.S. national interest point of view. In some cases there have been disagreements and no final position at the time that a meeting took place.

As a long-time Foreign Service officer who has been involved in many negotiations, I think any exception to the general rule that you should have your ducks in a row before you go into negotiation is unfortunate. We should not be trying to hammer our positions with the foreigners present, with your negotiating partners present. You should know exactly what you are going to do before you go into the negotiations, both what you are going to ask for and what you are ultimately prepared to agree to.

Senator NUNN. Would one of those meetings you have referred to be the October 1983 meeting that we in effect pressed for and then went into the meeting without having any kind of position that we could table?

Ambassador KATZ. Senator, we are getting into detail that I would like not to get into in pubic session. That particular question I would be prepared to discuss in executive session.

Senator NUNN. Our allies, presumably if we went into that meeting without a position, they would already know it, wouldn't they?

Ambassador KATZ. Well, this is one of the problems. I think it is a problem, but this is a testimony to good ad hoc work on the part of our representatives. Even in certain cases in which we did not have our positions in a row, our representatives handled themselves, from the accounts that I have received, with a good deal of professionalism and did what a good negotiator would do under those circumstances: They procrastinated and asked for time. There was, I am sorry to say, one incident in which some people lost their cool at a meeting, but only one. That I would rather not get into that at this point.

[At this point, Senator Rudman entered the hearing room.]

Senator NUNN. I don't either.

Ambassador KATZ. But for the most part, Senator, we are dealing with a negotiation in which we have been fairly successful, not entirely successful, but on the whole fairly successful in keeping our internal disagreements to ourselves. And I don't think we should at this point open them up and advertise them to our negotiating partners.

Senator NUNN. Well, I keep reading about them on the front pages and business pages of the papers and hearing debates on television taking place on them and so forth. I mean I think the people that don't know this at this point in time are the people in Congress in formal testimony. The reports are all over the press about the disagreements in this area. If they weren't we wouldn't have to have hearings. We are trying to see what is the problem and trying to see if we can come up with some constructive solutions to the problem.

Let me ask you this general question.

Ambassador KATZ. Senator, if I might interrupt, I know exactly what you are referring to and I think that has been one of the most unfortunate features of this negotiation. The fact that internal U.S. disagreements have been trumpeted far and wide in the media has made it very difficult for our negotiators. If you were negotiating on the other side of a fence and you saw that agency *x* has one position and agency *y* had another, and you were getting the first position from the United States, what would you do? You would normally just sit tight and wait for one position to be defeated and wait for the other agency to come up with a softer position.

Senator NUNN. I agree.

Ambassador KATZ. In other words, these disagreements within the executive branch, to the extent that they have been publicized, have weakened the negotiating position of our teams in Cocom. I think that is inevitable, but it is a testimony to their professionalism and expertise that they have carried on despite this background of publicity and have done a very, very good job of it on the whole.

Senator NUNN. Mr. Ambassador, would it be fair to say that these interagency disputes reached a new low in late 1983 and early 1984, the U.S. interagency disputes?

Ambassador KATZ. From my vantage point in Paris I can't gauge accurately where the highs and lows of interagency disputes take place. These are normal and inevitable and I have lived with them all my life. Sometimes I hear that they are particularly difficult at a given point in time. I am not part of those disputes where I sit.

We had one very bad dispute toward the end of 1983 in the Cocom delegation in which I personally got involved, but that was a dispute in terms and this is what concerned me—it was a dispute in terms of a negotiating position in a forum, in the Cocom forum, and that is where I particularly became concerned and involved.

Senator NUNN. Mr. Ambassador, in general, do you think that when we table our Cocom positions that we have a good technical and strategic rationale behind these positions?

Ambassador KATZ. On the whole, yes sir.

Senator NUNN. In the computer negotiations, is that true?

Ambassador KATZ. In the computer negotiations, we are still developing a U.S. position for negotiation that will take place later this year.

Senator NUNN. Generally speaking, do you believe that it is essential that we give technical and strategic reasons for our position rather than philosophical reasons? How do we reach agreement in Cocom? What is our most effective approach with Cocom and our allies? What are they looking for in terms of U.S. position and the validity of U.S. positions?

Ambassador KATZ. The Cocom forum has a very specific objective. It is to deny certain proscribed destinations the use of commodities or items which have strategic use. By strategic I mean mainly military use. And therefore the most effective argument in Cocom is that an item or a technology has military utility. To the extent that we are persuasive about the argument, we will carry the day.

I think we have the best intelligence capability in the alliance as well as the best technical capability to establish those facts. And our allies expect for the most part to get that input from the United States. Whenever we are convincing on that score, and whether we are convincing on the score that the proscribed destinations do not already possess that techology or those items, then we generally reach agreement in the Cocom forum to place them on the embargo list.

Senator NUNN. Mr. Ambassador, have you been generally skeptical and even critical about so many bilateral negotiating teams going through Europe and negotiating on a bilateral basis with various allies rather than through the unified multilateral approach?

Ambassador KATZ. Senator, the problem on bilaterals is not one of skepticism as to that being a substitute for the multilateral negotiations. The bilateral teams are not substitutes negotiations. They are in fact attempts to reach preliminary understandings with some of the other key negotiators before going into the multilateral forum. In that sense, the bilateral can be a very useful device.

It is true, however, that we have heard from some of our colleagues in the bilateral post that there may have been a bit too many of those visits to their capitals and that national authorities in those capitals working on Cocom matters were a bit taxed by the number of visits and by the fact that they came seriatum, that there was a bilateral for each specific subject rather than bunching them together and sitting down with those people.

We are blessed with a very large bureaucracy in our executive branch devoted to Cocom matters, and in many of those capitals there are only two or three people working on these issues, and so when a series of teams descend on a capital, they descend on the same two or three people, which puts them at a disadvantage and sometimes exacerbates the issues. And that is especially true of the smaller countries. So it is a physical problem, and I have urged not that we eliminate bilaterals, because they can be useful, particularly because Cocom is essentially either a middle level type of forum, and in the case of the bilaterals we can get to some of the more senior officials who actually determine policy. What I have urged is that we consolidate more our bilateral visits and, in other words, handle two or three subjects in a given bilateral visit and use them a little less frequently than we have in the past.

Senator NUNN. You referred to the December problem in a meeting where we had called a meeting and yet we didn't have a position. Was there any one agency that caused that or was this just a disagreement between all of them? What was the problem? In other words, where did the problem come from? Where did the disagreement come from?

Ambassador KATZ. Senator, I would rather not get into that in open session. What happened was that the delegation arrived in Paris without a position. It thought it could work out the position on the spot. Whether they thought that they had worked it out, in fact they determined that they did not have a position. And from my point of view, as a professional Foreign Service officer, that was a replay of the Perils of Pauline. In fact, our very, very skillful head of the delegation at that time, Deputy Assistant Secretary Dale Tahtinen, just kept the negotiation going and overnight we did get a position and we delivered the position on the final day of the negotiation. And that is the sort of detail which if we went into it in any greater length in open session I think might seriously weaken our negotiating position for the forthcoming talks which will finalize the list review.

Senator NUNN. Well, I am going to defer to you on this. I have some skepticism about why this should not be in open session, but I will defer to you on that.

Let me ask you one other question and then I will defer to my colleagues. From your perspective and with your experience and so forth, what would you recommend be done to improve our Cocom negotiating position and the way we approach the problem?

[At this point, Senator Bingaman withdrew from the hearing room.]

Ambassador **Katz**. Senator, I have urged Washington to do what it should be doing. That is develop negotiating positions before coming to negotiations. As I said, for the most part we have been very successful in the course of this negotiation. We have had a few glitches in the sense that we were not prepared at the time of the actual negotiation. Even a few exceptions to an otherwise excellent performance is really unacceptable from a professional point of view and from a national interest point of view. Mistakes are far too important to have even one exception.

I think Washington, from what I am aware, has taken my advice rather seriously and has achieved a new determination to get all of its technical preparatory work and its interagency clearance process done before assigned dates for negotiations. I am assured by my friends in Washington that when the next meetings will take place, they will be prepared for them and the U.S. delegation will be working in a very coordinated fashion.

[At this point, Chairman Roth entered the hearing room.]

Senator **Rudman**. Could we suspend for one moment?

Senator **Nunn**. Yes.

[Discussion off the record.]

Senator **Nunn**. At this point, Mr Ambassador, I am going to defer to your judgment. In these matters you are the expert. Although I think there are other things that we could get into in open session that might be very helpful, you have to make that determination in the final analysis. I know you are acting in good faith in your request.

So I would suggest, Mr. Chairman, and Mr. Vice Chairman, that what we do is complete the open session questions. I know the Ambassador has an 11:15 meeting. We can then clear the room and have a closed session with the Ambassador, getting into some of these other questions, which I think will take about 30 minutes. Hopefully we will be able to let him out by about 11 o'clock.

Ambassador **Katz**. Good.

Chairman **Roth**. I take it, then, you want to proceed at this moment with the open session questions.

Senator Rudman?

Senator **Nunn**. One alternative is if the Ambassador could come back later this afternoon, we could do it then and continue with the open session. I am willing to do it either way.

Senator **Rudman**. I would remind my friend from Georgia I think we have a scheduling problem. I think this hearing room is occupied.

Senator **Nunn**. You are absolutely right. I stand corrected on that and agree with the Vice Chairman. We have had all sorts of efforts to let us go forward with these hearings this morning so we could accommodate the Ambassador's schedule and others, for which I am grateful.

Chairman **Roth**. Why do we not proceed.

Senator **Rudman**. I will not have any questions at this point for the Ambassador, possibly during the closed session.

Chairman **Roth**. Senator Nunn.

Senator **Nunn**. I don't have any more open session questions, Mr. Chairman. Perhaps we could take a short break and clear the room.

Chairman ROTH. All right. If there are no questions for the open hearings, we will go into closed session and I would ask that those in the audience please depart and turn off their equipment.

[At the time of recess, Senators Nunn, Rudman, and Roth were present.]

[Whereupon, at 10:13 a.m. the open session was recessed, and the hearing proceeded into executive session.]

[Whereupon, at 11:26 a.m. the Permanent Subcommittee on Investigations executive session was terminated, and the subcommittee returned to open session.]

[Members present at the resumption of the open session: Senators Roth, Rudman, and Nunn.]

Chairman ROTH. You have to be sworn. Raise your right hand. Do you swear to tell the truth, the whole truth, and nothing but the truth, in your testimony before this subcommittee, so help you God?

Mr. OLMER. I do.

Mr. SCHNEIDER. I do.

Mr. PERLE. I do.

Senator NUNN. Mr. Chairman, this could be on the record here, but let me ask. Ambassador Katz commented on part of your testimony. We have not given that part of your testimony out. Do you want to stand on that? Because the media wants that testimony.

Mr. OLMER. I had my technical staff review it 2 days ago for security considerations. Yesterday I had a call from Mr. Schneider to ask that certain portions be deleted because of security. They were deleted. If he is satisfied, we remain satisfied. Ambassador Katz may be more sensitive than the public.

Mr. SCHNEIDER. We can go back over it to make sure there is no problem.

Mr. OLMER. We looked at it with that in mind.

Senator NUNN. Should we give it out or hold it?

Mr. SCHNEIDER. Let's hold it and consult with Ambassador Katz.

Senator NUNN. It is going to be very difficult to do. I don't know where all the copies are.

Chairman ROTH. Would you please be seated. Is there any preference in the order?

Mr. OLMER. I think we had decided last evening Mr. Schneider was going to open and I would follow him and Mr. Perle would be third. But if you want to go third.

[Discussion off the record.]

Chairman ROTH. We would like to proceed. We have a panel including Mr. Olmer, Under Secretary for International Trade, Department of Commerce; Mr. Schneider, Under Secretary for Security Assistance, Science and Technology, Department of State; Richard N. Perle, Assistant Secretary for International Security Policy, Department of Defense.

Gentlemen, we will go in the order that you proposed, but we intend to let each of you make your remarks and then we will question the panel at the conclusion of that. Mr. Schneider, will you lead off, please.

TESTIMONY OF WILLIAM J. SCHNEIDER, JR., UNDER SECRETARY FOR SECURITY ASSISTANCE, SCIENCE AND TECHNOLOGY, DEPARTMENT OF STATE; LIONEL H. OLMER, UNDER SECRETARY FOR INTERNATIONAL TRADE, DEPARTMENT OF COMMERCE; AND RICHARD N. PERLE, ASSISTANT SECRETARY FOR INTERNATIONAL SECURITY POLICY, DEPARTMENT OF DEFENSE, ACCOMPANIED BY MAJ. DAVID LEE, HEADQUARTERS DEFENSE NUCLEAR AGENCY, ALEXANDRIA, VA, AND FRANCES LYNCH, BDM CORP., McLEAN, VA

Mr. SCHNEIDER. Thank you, Mr. Chairman.

I have a longer text and at your request I will truncate my remarks somewhat and with your permission have the balance appear for the record.

Chairman ROTH. Without objection.[1]

Mr. SCHNEIDER. Thank you, Mr. Chairman.

My predecessor, James L. Buckley, took up his State appointment in 1981 determined to make the Department and, indeed, the executive branch more effective in stemming the flow of Western strategic technology to the Soviet Union and its allies.

His principal executive action to this end was to create the Senior Interagency Group on the Transfer of Strategic Technology. The object of this exercise was to bring together, at the policy level, all U.S. Government agencies with strategic technology programs or interests for a coordinated effort on the issue. The SIG was established in the middle of 1982. I took over chairmanship in August of that year when Mr. Buckley took another position in the administration. The group has 18 agencies or organizations as members. One feature of the group's membership deserves special note. We have endeavored to see that the sections of these agencies that have primary action or policy responsibility have access to the group regardless of rank. For example, Customs is represented by the Commissioner and his alternate is the Director of Operation Exodus. The FBI, following the same principle, is represented by the Assistant Director for Counterintelligence and his alternate is the Director of the Technology Transfer Unit. This has been a successful method of organization because it has produced regular contact among all key senior officials who work on any aspect of the strategic transfer problem.

Prior to the formation of the SIG, there was already an increasing amount of activity within the executive branch on the technology transfer issue, but there was no day-to-day focal point for organizational coherence and the setting of priorities. It was this very lack of a coordinating center that made effective action difficult during the last year of the Carter administration when its policies, principally after Afghanistan, began to turn in the direction advocated then by President Reagan and pursued now by his administration.

The Senior Interagency Group had at its creation, and still has, several key objectives:

First, to raise the level of priority given to the technology transfer issue within all relevant U.S. Government agencies. It is worth noting that the technology transfer question seldom received senior-level attention in the administrations of the 1970's. Now, through the actions of the President, the various Cabinet secretaries, and the SIG, this problem is a thing of the past.

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[1] See p. 266 for the prepared statement of William J. Schneider, Jr.

Second, to take the overview on the issues for the executive branch and to set priorities accordingly. The SIG approaches the technology transfer problem as simultaneously a domestic and an international issue. A principal theme of its activities is to produce the best possible U.S. control program in order to use that as an example in persuading other countries to strengthen their own efforts.

Third, to initiate new projects where necessary and to see that implementation and followup occurs in all U.S. initiatives. In taking the overview, the SIG has found many loopholes and weaknesses in our own system and set corrective efforts in motion. In this respect, the SIG has filled in the gaps between the programs of the major agencies and has endeavored, with some success, to keep various initiatives from falling between the bureaucratic cracks. It has also become a key source of new ideas in how to handle the strategic transfer problem.

Fourth, to make policy decisions. The SIG can and does make decisions on matters under its purview or elevates unresolved issues to the NSC. For example, it is presently working to ensure a unified U.S. Government position for the upcoming Cocom computer negotiations.

Fifth, to coordinate the activities of all relevant USG agencies as previously described.

I would like now to turn to the Department of State's role in the Cocom list review.

First, however, let me say that the work of that body is confidential in nature, as has been discussed earlier, as are the positions that we take there. This is a matter of long-standing policy among the Cocom member govenments. I will provide as much information here as possible. If you wish to go into greater detail, I would rightfully request that we do this in a closed session.

State's role in implementing the administration's policy on Cocom can be seen in several ways. First, following the President's initiative at the Ottawa Ecomonic Summit in July 1981 to seek a senior-level Cocom meeting specifically focused on the technology transfer issue, State led the U.S. effort in convening the first high level meeting of Cocom in over a quarter of a century. The January 1982 meeting has now been followed by a second in April 1983, and we expect others to follow as necessary. These meetings have become the focal point for a renewed commitment by Cocom member governments to work together in strengthening multilateral export controls.

Second, State and its sister agencies have pursued the mandate of the first high level meeting to harmonize, insofar as possible, the national licensing systems of the member States. This work has been going on with considerable success in the Cocom Subcommittee on Export Controls since May 1982.

Third, along with Customs, Commerce, and other agencies, State has pursued the agreement reached at the January 1982 high level meeting to improve the nationally administered system of export control enforcement. This has resulted in extensive consultations within Cocom and bilaterally with the member governments. We are pleased to report a significantly heightened awareness of high technology export offenses among the Cocom governments and substantially improved international cooperation in this area. We believe, however, that more needs to be done to strengthen the enforcement of the Cocom embargo, and we are working vigorously to that end.

Fourth, all Cocom-related U.S. agencies have pressed for Cocom attention to the need for encouraging certain non-Cocom countries to cooperate in stemming the flow of critical technologies to the Warsaw Pact. A meeting of the Subcommittee on Export Controls has recently endorsed for the first time a coordinated strategy for tackling that problem. The third-country diversion problem now has very high priority within Cocom, and we anticipate major progress in this mutual member-country effort in the foreseeable future.

Fifth, in 1981–84, State organized through the Economic Defense Advisory Committee a thorough interagency review of all Cocom control lists in preparation for the Cocom list review now underway. On the basis of this work, the United States submitted more than 100 technical proposals to strengthen and update the embargo. These included proposals to control technologies of major military significance that had never before been covered by Cocom.

Since October 1982, national delegations have been negotiating on an almost daily basis the technical parameters of our and other countries' proposals. This work is not yet finished. However, we can report even now success in high priority areas such as electronic-grade silicon, printed circuit boards and their manufacturing technology, certain advanced ceramic materials, gas turbine aeroengines, selected advanced composite materials and their production processes, large floating drydocks, and spacecraft and launch vehicles.

We are still working to obtain agreement in top priority areas such as computers, robotics, and other types of turbine engine technologies. We already view the 1982–84 List Review as a success. It is certainly the most thorough and comprehensive one that has ever taken place. We are looking forward to agreement on the final, difficult items within the next few months.

I will conclude my statement there, Mr. Chairman, and be glad to answer questions at the appropriate time.

Chairman ROTH. Mr. Olmer.

Mr. OLMER. Thank you, Mr. Chairman, Senators.

I have a statement which I would like to introduce for the record [1] and I will not refer to it now but would like to make a few comments about the Cocom process generally and about the importance of high technology to our country in particular.

In the first instance, the forthcoming computer negotiations are extremely important to us for at least three reasons. As has been mentioned, the current standards by which Cocom judges computers are outdated and largely irrelevant, having last been addressed in 1976.

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[1] See p. 286 for the prepared statement of Lionel H. Olmer.

In the second instance, virtually half of all of the applications which the Commerce Department processes deal with computers, and more than half the value of controlled exports represent computers and associated peripheral equipment. Our allies who believe they need to catch up in the field of high technology, that they have been behind and are getting further behind, see it as essential to their economic security that they develop a competitive industry in the field of microelectronics.

Now from our perspective, high technology is extraordinarily important for a variety of reasons which I know you are familiar with, but I would like to tick off, if I could, in a hurry. It is important to our economy and it is important to our national security. Growth in high technology in the last 10 years has been twice that of other industries combined. High technology makes an enormous contribution to industries across the spectrum of America's economy, low technology as well. Productivity increases in textiles have come about in large measure because of advances in applications of microelectronics.

We have had a $20 to $25 billion surplus in high technology exports in the last couple of years, while we have suffered a $59 billion trade deficit in manufacturing generally. In the last 10 years, 9 of the 10 fastest growing industries in America have been high technology. They have enjoyed 6 times the labor productivity of other components of our economy. Prices for high technology goods have increased by one-third the amount of the inflation rate generally in our economy.

It is important for our security because it is essential for our weapons systems, and it is important for us to combat the weapons systems of potential adversaries; countermeasures development, in other words.

Growth in employment in high technology has been half again that of other sectors of our economy. Indeed, some 44 percent of U.S. exports are made up of high technology goods and related services.

Senator **Nunn**. What percent?

Mr. **Olmer**. About 44 percent of manufactured goods. Japan, France, the Federal Republic of Germany, 20 to 25 percent of their exports are high technology or related.

Now by most measures, not all, but most measures, the United States has been on a declining curve in high technology preeminence. Our trade surplus has declined. Our market share has declined. Even the sale of technology in the form of patents, licenses, and cross manufacturing arrangements has declined. Indeed, Japan became a net exporter of technology somewhere in the mid-1970's.

The United States no longer gets as high a price as it did for its technology goods, and that is attributable in the main to the simple reason that we no longer have as much uniqueness as we once did. Our goods are not as desirable as they once were.

Japan, France, and the Federal Republic of Germany have gained enormously while the United States has been sliding somewhat; France and Germany in third country markets, and Japan has gained in the United States and throughout the rest of the world.

Now there has been an enormous, very dramatic change in the course of the last 15 years in technology development. Some 15 years ago the Defense Department was the driving force behind technological development. The development of technology depended upon procurement provided by the Pentagon. That is no longer true. Indeed, it is the private sector today which is responsible for pressing ahead in leading edge technology, and it can only do so when sustained by profits in a competitive marketplace and an increasingly competitive marketplace.

Looking at the field of microelectronics, which is the essential, ingredient bar all others in the field of computers and peripherals. There are some 50 billion of these semi-conductors which I have a representative sample of in this tennis shoe box, 50 billion of them produced every year in the world, and the United States probably produces no more than 26 billion. They sell from less than a penny to a couple of hundred dollars. They are manufactured in developing parts of the world as well as in the developed world. They are available by dialing an 800 number and using a Visa card. And you can buy them in quantity.

Japan is ahead in several component assemblies, in the semiconductor field, predominantly in the memory market. Everyone knows the story of 16 Kilibet random access memory, access system, and the 650 K and now the 256. Japan may even be ahead in total production. Japan is probably ahead in the fifth generation computer which holds the promise of eliminating the need for computer software. Japan has announced its intention to be perhaps No. 1, certainly no more than No. 2, in the field of even main frame computers, thus challenging IBM, by 1990.

IBM today produces roughly 1 personal computer every 7 seconds and announced an intention that appeared in the New York Times about 2 weeks ago of doubling its production in 1984. By 1990 there may be as many as 80 million personal computers throughout what we call the free world.

Now confronted with those kinds of factual realities, one must take a look at the nature of the Cocom list and the nature of the unilateral and multilateral effort to control goods that potentially arm our adversaries or provide our adversaries a way of eliminating a U.S. advantage.

We have done, as Under Secretary Schneider has said, a tremendous job at sensitizing our allies to what we believe has been an insidious effort by the Soviets over the course of the last 10 years to obtain Western technology and thus save themselves time, money and effort. Everybody now knows that. Everybody virtually knows there are perhaps 1,000 KGB agents throughout the United States. It is in open source literature that you can read, that the primary method of obtaining access to Western technology is through open sources, in the United States and elsewhere in the world, through attending conferences, through Freedom of Information Act requests, through product literature available at product shows across the world. There is no end to the open sources that are accessible to the Soviets.

But that doesn't diminish the need to do a better job at controlling maybe the 5 percent source which is represented in the Cocom multilateral effort. My guess is, based on discussions with a number of different people in this business, that no more than 5 to 8 percent of the total technology which is assessed by the Soviets comes to them from diverted technology through avoiding Cocom restrictions.

But what have we done? We have, as Mr. Schneider has said, sensitized our allies, tightened up on enforcement. The Commerce Department had increased its resources some 400 percent between 1980 and 1984. I reject the notion that the Commerce Department is biased to promote the export of U.S. goods and services and provides only diminished attention to the national security component. I think we do a pretty fair job by insulating that part of the Commerce Department that has that responsibility from the export promoters. And there are a lot of fights internally as to what should or should not go on a list.

But on the other side, what we haven't done is reduced the size of the list. There are at least 200,000 different kinds of semiconductors that are manufactured today around the world. The control list is so large there is no precise identification as to its sum total. It is certainly more than 200,000. Our allies know it, we know it, and we both share the common belief that it is unmanageably large and thus diverts our attention from what truly is strategic.

On the other hand, it has been necessary that we turn our attention first to what we consider most important. So back in 1981 and in 1982, we couldn't do everything and we knew it. Our first effort was made to tighten up the controls at the top. In the course of that process, there has been a lot of controversy within the administration and between the administration and it allies. We know we have not paid sufficient attention to decontrolling items at the lower end of that list. I believe that we are on that course now. I believe that we have gotten the attention of the people whose attention needs to be made more precise. And I believe that we understand better what needs to be done.

It remains to be seen as to whether we will deliver on the promises that all of us have articulated since January 1981, tighten up the top, and clear out the bottom end. We haven't yet done it and we absolutely need to get on with that job.

Thank you, Senator.

Chairman Roth. I think rather than proceed, why don't we temporarily recess and go vote and then we will return.

[A brief recess was taken.]

[Members present at the time of recess: Senators Roth, Rudman, and Nunn.]

[Members present after the taking of a brief recess: Senators Roth, Rudman, and Nunn.]

Chairman Roth. The subcommittee will be in order.

Mr. Perle, we invite you to proceed.

Mr. Perle. Thank you very much, Mr. Chairman.

I will submit, if I may, my prepared testimony for the record and make only a few brief remarks based on that testimony.[1]

Chairman Roth. Your complete prepared statement will be put in the record.

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[1] See p. 276 for the prepared statement of Richard N. Perle.

Mr. PERLE. I would like to describe the general nature of the activity of the Department of Defense with respect to the problem of controlling the flow of high technology to the Soviet Union and Warsaw Pact.

From the earliest days of the administration's involvement in the issue at the Defense Department, it has been our view that the most important single purpose we could advance was bringing about a greater recognition——

Chairman ROTH. Would you pull the microphone a little closer so we could hear you?

Mr. PERLE. We have sought to bring about a greater recognition of the danger posed to the security of the United States and its allies by Soviet acquisition of advanced Western technology that finds it way very quickly, in some cases rather faster than we are able to incorporate the same technology, into the weapons systems of the Warsaw Pact.

Second, we have sought to identify necessary revisions to the list of embargoed technologies and commodities, revisions made necessary by the development of technology and by our increasing knowledge of the use to which the Soviets have put that technology.

Third, we have sought to improve the involvment of the Department of Defense in case processing. In 1981, when this administration came into office, there was a significant backlog of license applications that had not been acted upon, several thousands in fact. At one point in 1981, the Defense Department had 10 personnel over at the Department of Commerce helping to clear up that backlog. I am happy to say that we have now eliminated the backlog. We are current with respect to pending license applications.

In order to accomplish this—and it is an accomplishment of which we are proud—we have introduced for the first time significant automation in the processing of cases, so that we now have computers in the Department of Defense relieving us of much of the burden of paperwork.

We have greatly shortened the communications time between Washington and Paris, where Cocom is based, so that multilateral cases can also be processed quickly. When we took office, Mr. Chairman, cases were transmitted between Paris and Washington by courier. It took an average of 2 to 3 weeks. We have now established an electronic system of communication so that cases can be instantly transferred. The Department of Defense has provided equipment with which to make that possible. And Cocom cases, cases that originate in Paris, are now received in Washington through the Joint Chiefs of Staff message center.

We think these improvements, which were long overdue, have enabled us, and will enable us in the future, to deal expeditiously with export licensing.

Second, we have taken a number of steps to strengthen the institutions that are involved in both determining what should and should not be sold and in strengthening the enforcement regime with respect to the mounting problems of illegal diversions of high technology. Within the Department of Defense, we have added significantly to the staff involved in this activity. We have consolidated the internal mechanisms within the Department of Defense in order to produce more efficient decisionmaking. We even have gone so far as to engage a Naval Reserve unit, which works on weekends, so that we are open for case processing 7 days a week. And this, too, had contributed to removing the backlog.

To give you yet another example of an innovation of which we are proud, working together with the Defense Intelligence Agency, we have a project under way to establish a better data base with respect to the foreign availability of commodities and technologies that are otherwise controlled. That effort is funded in part by my office.

Now in Paris at Cocom we have moved vigorously to strengthen that multilateral institution that brings together the collective efforts of the Cocom member nations in order to protect against the flow of militarily significant technology to the Soviet Union and the Warsaw Pact. The first high level meeting of Cocom in 26 years was convened in the first year of this administration, and it was convened at the urging of Department of Defense together with our colleagues in other departments. Indeed, President Reagan in Ottawa, at the very first occasion he met with some of our most important allies, and asked that a high level Cocom meeting be established. That has taken place and those high level meetings are continuing.

We have sought also to upgrade the establishment in Paris at Cocom by providing it with better staff, better equipment. And we are trying very hard to persuade our allies to bring into the Cocom system some experts in military research and development who we believe have the necessary background and experience to anticipate where problems may lie in the future.

It has not always been easy. The record of resistance within the alliance is well known. But I think it is fair to say that significant progress has been made in strengthening the institutions that are intended to deal with this problem. Finally, we have been working closely with other countries not members of Cocom in order to highten their awareness of the risks to the common security of the free world that results from unwarranted transfers of technology.

I would like to focus most of my remarks to day on one issue and one technology, and that has to do with small computers, some of which you see on display in this hearing room.

Before I do that, let make only one comment about the size of the list of embargoed items.

It is frequently said that the list of technologies that it is not permitted freely to sell to the Soviet Union is too long and should be shortened. The Depatment of Defense certainly agrees that there should not be items on that embargo list that it does not make sound military security sense to keep there.

But I think the size of the list is a very misleading indicator of whether we have got it right. In a sense we could reduce the list to a single sentence. We could write a one sentence list that says we will embargo all exports of technology and commodities the transfer of which would have a significant impact on the military forces of the Soviet Union and its allies. That would be a very short list indeed, one sentence in length. But it would be impossible to administer.

Given the realities of administration of any embargo list, we have sought, and believe it makes sense to seek, the greatest possible precision. And precision is attained by having a list that is sometimes excruciating in its detail because it enables people who have to pass on licenses and make judgments about licenses to reference the precise commodity or technology in question. So I think the size of the list, which has frequently been the subject of criticism, is not the relevant measure of effectiveness. The relevant measure is whether there are items on the list that ought not be be there and whether there are items that ought to be there but are not.

And we believe in, and fully support, an interdepartmental effort to assure that unnecessary items are removed from the list whenever it is practicable to do so.

Now, it is well known that we are currently negotiating in Paris with respect to the future controls that will be placed by all the members of Cocom on the sale of computers and other advanced electronics to the Soviet Union and its allies. I cannot go into the details of that negotiation because we are bound by a rule of confidentiality and it would not advance the American purpose or indeed the Allied purpose in achieving a satisfactory result if I were to discuss those details here.

But it does seem to me important to bring to the attention of the subcommittee the really extraordinary potential of small computers on the battlefield of the future.

I cannot stress too strongly that we are at the beginning of a revolution in the application of computing technology to the conduct of future military engagements. Indeed, we are so much at the beginning of this revolution that we can now only dimly perceive the eventual and ultimate uses to which computers will be put in managing the actual conduct of war and in supporting virtually every activity of the Department of Defense and the Armed Services, ranging from the acquisition and dissemination of intelligence to logistics to personnel to battlefield coordination, command and control and the like. I would like to say a little bit more about this area because there is in some quarters the belief that because small computers are widely available on the open market, and indeed they are, that we ought to throw up our hands and, despite the military consequences of the acquisition of small computers by the Soviet Union, determine that it is impossible to bring about any sensible control regime and, therefore, permit this enormously important potential capability to pass freely into the hands of our adversaries.

We believe there are control regimes that can be established that, consistent with trading interests, will prevent the most serious flow of small computers and small computer technology to our adversaries. And it is light of the importance that we have already begun to attach to these computers in our own military that we think an effort has to be made and is indeed now being made.

What you see on my right is a computer system that consists entirely of off-the-shelf equipment, equipment that can be freely purchased at any number of retail outlets in this country and abroad. The problem to which this array of computer equipment is devoted is managing nuclear targeting and survivability. And it has come as a surprise to many who have been exposed to it for the first time that an Apple II computer and associated off-the-shelf equipment is presently in use for the purpose of targeting nuclear weapons. It is able to do so in a manner that helps to assure the survivability of the structure of command and control and targeting without which we cannot hope to maintain an effective nuclear posture.

The Defense Nuclear Agency developed software that would run on Apple computers to locate, to prioritize targets, to select the optimum weapon for the task involved, and to designate the aim point of that weapon. The initial integration of the software and the hardware took about a year. The system has been tested in a number of field exercises here and abroad and it has now been institutionalized in our European Command.

The cost of such a system is approximately $25,000, and the hardware that it uses in only slightly more sophisticated than the Apple II itself.

Senator NUNN. Mr. Chairman, may I ask just one brief question here. When you are speaking of targeting nuclear weapons, are you talking about targeting offensive nuclear weapons in terms of the designated targets or are you talking about being able to target the nuclear weapons on the other side as designated?

Mr. PERLE. I am talking about the latter, delivery of a nuclear weapon.

Senator NUNN. Delivery of offensive weapons?

Mr. PERLE. Of a nuclear weapon.

Senator NUNN. To their targets?

Mr. PERLE. That is correct. With this equipment in place, problems that formerly required hours to solve can be solved in a matter of minutes. And of course, given the pace of the battlefield, hours is much too long. The target is almost certain to have moved and other changes will have taken place on the battlefield so that it is important to be able to reduce the processing time for this sort of automated assistance in making decisions.

The Defense Nuclear Agency has demonstrated a microcomputer-based command center that greatly improves the survivability of the center through dispersal. It is possible to have multiple such centers. They are small. They can be easily concealed and protected.

This contrasts sharply with the way we were compelled to do things in the past where we had a very small number of command centers, locations of which were far more knowable because they were far more visible, the equipment much bulkier. We will later give you some specific examples of how it has been possible to compress the quantity of equipment that it is necessary to bring to the battlefield.

The idea behind the systems was to disperse the elements of the command post, the operations, intelligence, supply, personnel and the like, across the countryside, separating each element by a number of miles. The problem that our colleagues in the Defense Nuclear Agency faced was transferring data between these elements and the commander. This is a probably the single most important command and control problem on the battlefield.

Using Apple computers, DNA has demonstrated that important information could be stored and transferred by these elements using radios or hard wire. The concept has been tested since 1982 in 10 major U.S. and NATO exercises.

Another application of the microcomputer has been demonstrated in Europe using telephone systems. The advantage of that is that those commercial telephone systems without dedicated lines are redundant and difficult to destroy. The computers that were used in linkups with telephone systems did not reveal their location because they don't radiate information. And together with encryption devices, classified information has been successfully transmitted at very high data rates over commercial telephone systems. Robustness of the European telephone systems in the theater means that in the event of war, we can keep effective command and control even with the damage that has to be expected in the conduct of operations.

I would like, if I might, to ask Morton Rubenstein, who has a small team with him from the Defense Nuclear Agency, which has been responsible for this development, to say a little bit more about what it is you are seeing in this display of hardware. I would only again emphasize that precisely because this is off-the-shelf hardware we have a problem that we are trying very hard to come to grips with both internally and in persuading our allies that a regime of controls is going to be necessary if you are going to prevent the Soviet Union from operating in the same manner that we believe it will be possible for U.S. forces to operate.

Major LEE. Mr. Chairman, I am Major Lee from the Defense Nuclear Agency. As Mr. Perle said, the equipment you see in front of you is readily available in any computer store in the Washington area today. However, hooked together we use it very effectively for military application, and it is presently on the ground in Europe and the United States right now.

What this system does for the commander is it allows him to disperse his command center, be it at any level, and disperse the functions so there is nuclear survivability in the event that he is subjected to a nuclear attack.

This is a replicated data basis. This particular piece of equipment here allows him to input information into the total system, and the piece next to it, this stack, is the communications network that allows the stations to talk to each other. Now recognize that this is just one of many stations that are employed in the corps.

The cost of the staff duty station is about $8,000 and the communications gateway costs about $12,000. But it will handle many of the staff duty stations.

To train an individual to use this can take anywhere from 1 to 2 weeks. So we don't need a high tech guy in order to operate one of these. It is a simple off-the-shelf computer with technology that DNA can provide, and it is in use right now.

Mr. Lynch will demonstrate some of the applications of this machine.

Mr. LYNCH. Right now I don't know if you can really see it, but you are actually looking at an overlay of a data base of positions for units on top of a videomap which looks exactly like the battle maps in any of the headquarters. That type of information and the data base for that can be disseminated via the gateway to other locations, including targets and nuclear targets, and information pertaining to the firing of the nuclear targets, as well as any other intelligence data and operational data.

And it is done by a 16 byte system which is represented in all commercial equipment right here. And it is actually being used on tactical communications in V Corps, the A Infantry Division and the 3d Armored Division, the videodisc system.

Senator NUNN. Let me ask one question here because I am piecing back something that may have happened in a conversation a couple of years ago. This isn't on the subject we are talking about, but I had an Army gentleman who told me he got so frustrated with the procurement system and all the sophisticated weapons, computers and so forth, that he had on order that he went out and just put together something himself by buying what looked very similar to this, the computers and putting it together. He just said, "The heck with DOD procurement; I am going to put it together myself." He demonstrated it. And then after that the Department of Defense put this together. Am I relating at least these two things properly?

Mr. LYNCH. Are you talking about General Mackmull?

Senator NUNN. I wouldn't want to call him names.

Mr. LYNCH. BDM supplied General Mackmull with this system.

Senator NUNN. What I am asking is: Did this originate in the normal DOD way or did somebody become very innovative in the Department of Defense and put this together on their own?

Mr. PERLE. DNA has been extraordinarily innovative in bringing together people with great technical competence. DNA was innovative in its decision to test this concept as part of its research program. I should note that this was a proof of principle test rather than a fielding of operational equipment. As such, the equipment was acquired using proper RDT&E procurement procedures.

Senator NUNN. Is that a way of saying this did not go through the normal DOD procurement channels?

Mr. PERLE. This equipment went through normal RDT&E procurement channels. If the concept continues to appear feasible for operational use, the acquisition of equipment will receive further consideration through the major system acquisition process. If we had to use normal DOD major system channels to acquire equipment for use in research I think we would probably still be waiting for it, Senator.

Senator NUNN. It is the same conversation then.

Mr. PERLE. I might just mention, in passing, I was talking the other day with an official who had spent a good part of his working life at Wright-Patterson Air Force Base, who recalled a situation during the Korean war when he found it convenient to resort to the Sears Roebuck catalog, to meet some urgent procurement requirements. So nothing changes.

Senator NUNN. I don't have anything else.

Mr. LYNCH. Right now we just put up a photo that is of the avenues of approach into the 5th Corps sector. It is about 2,000 or 3,000 photographs that the Army has taken but heretofore had not been able to use very effectively on the avenues of approach into the sector. This system allows them to more rapidly retrieve that and make it useful for a command decision.

Major LEE. It gives the commander a tool he hasn't had in the past to make rapid decisions with accurate information that is stored in the computer. It is available at any number of locations. It even allows him to command from more than one location. He has that information at more than one location if he really needs it.

Thank you.

Mr. PERLE. If any single impression emerges talking to our Army personnel, it is that the battlefield is chaotic. The flow of information in the past has been intermittent and often unreliable. The small computers of the future will give the battlefield commander the opportunity he has never had before, to correlate information virtually in real time coming from dozens of different sources and to disseminate that information as and when it is needed. There is no way that the United States is going to be able to match the Soviet Union, tank for tank, or troop for troop, or aircraft for aircraft, particularly in the European theater. We are compelled by necessity to resort to the advantages we have in technology.

We think this is a vital mission of the Department of Defense to protect for as long as we can and as effectively as we can the advantage in technology that enables us to multiply the effectiveness of our far more limited forces in order to give us a decent chance on the battlefield.

Now a great deal of work has been done not only by the Defense Nuclear Agency, but the 9th Division, the High Technology Experimental Division. They are deeply involved in the application of computers to the battlefield. The ability of a commander efficiently and effectively to accomplish command and control is really the linchpin of the current doctrine of air-land battle, the doctrine that the Army is now introducing. The Army is faced, as you know, with an ever-increasing threat. They must be able rapidly to collect, process, and analyze battlefield information and to execute plans before the enemy has had time to react and gain the advantage.

Now the previous command and control system that was developed by the High Technology Division involved a large number of vehicles, organized into command posts which planned, coordinated, and executed the tactical commander's battlefield plans. The system was characterized largely by manual processing of massive amounts of battlefield information and by the centralization of command and control, which was made necessary by the volume of information and the size of the establishment necessary to process it.

The manual procedures for the processing of this information were cumbersome and they really didn't meet the commander's decision needs on the battlefield. Moreover, the centralization of the personnel and equipment meant that the command and control system was unduly vulnerable to enemy attack. These deficiencies are being overcome now, largely through the use of commercially available high technology microcomputers interactors into the division's command and control system. The innovative use of these has provided the commander with significantly enhanced capability.

I think given the time constraint that we are under we probably can't go into the detail we would like to share with you. There are some fascinating briefs on how the Ninth Division has been applying these technologies to its command and control structure. Perhaps on another occasion we could return to do that.

Let me just say a word or two. We don't know yet the full impact of the application of these computers to the battlefield. I am quite sure we will find hundreds—we have already found dozens—of applications across the whole spectrum of military requirements. But on the basis of what has been done already, they have already proven their worth in the field. Operations orders which previously required up to 6 hours to prepare and distribute within one brigade have been processed and distributed now in less than 2 hours using commercially available computers such as the computer that you see here, which is the Grid computer. This is a computer with 256 K bytes of random access memory and 284 K bytes of bubble memory. It weighs about 10 pounds. You can drop it from 3 or 4 feet off the ground and pick it up, plug it in, and it will work. It is a highly reliable, robust piece of equipment.

The entire contents of this hearing could be stored in this computer. At the moment, we have stored in it the recommendations made by this subcommittee when you held previous hearings on the subject of controlling technology transfer to the Soviet Bloc.

It is an enormously valuable tool netted with other such computers on the battlefield. We are seeking to control the ease with which computers of this type are made available to the Soviet Union. Now we know very well that it is always going to be possible to buy computers in ones and two and threes from commercial outlets and that we cannot put a hermetic seal around the Soviet Union and its allies. What we think we can do in concert with our allies is reach agreement that these are not to be imported into the Soviet Union in quantity, and in particular so they are not imported into the Soviet Union tailormade for the specific military purposes that we think they can so usefully serve.

So between those who would argue that the problem is unsolvable because computers are commercially available and those who argue that we ought to stop all such trade in computers, there is a middle ground. We are searching together with our allies to achieve that middle ground because the military consequences of failing to do so are so inimical to our security.

Thank you, Mr. Chairman.

Chairman ROTH. Thank you, Mr. Perle.

Senator Rudman, I am going to ask that we limit the first round to 10 minutes.

Senator RUDMAN. That is fine.

Thank you, Mr. Chairman.

Mr. Perle, let me just pick up on the very last portion of your testimony. In the estimate of the Defense Department and your intelligence sources, when are the Soviets going to be able to produce the fairly sophisticated personal computers we Americans can buy in downtown Washington this afternoon: Apple, Tandy, whatever, a new IBM?

I know, I own two of them. They do a great deal.

Are you telling us that it will be a long time in the future before the Soviets or their own Eastern bloc nations will be producing computers of that relative simplicity in large numbers?

Mr. PERLE. Let me say, Senator, that that depends in large measure on how successful we are in maintaining an effective embargo on the production line equipment that is necessary for the manufacture of these machines. And indeed, it is the success the Soviets have had in obtaining the machines with which to make these computers, the equipment that taken together constitute a microelectronics production line, that will spell the difference. But at the moment, it is our judgment that the Soviets have not succeeded in producing a reliable machine even at 16 bytes.

Senator RUDMAN. So essentially, what you are saying is that although they and their scientific community obviously understand precisely how to construct these, and I am sure they know how to write the software, that it is going to be a long time before they get to manufacturing the semiconductors and microelectronics in the quantity necessary.

I am going to get to you in just a second, Mr. Olmer, because I am going to ask you a question after hearing Mr. Perle's answer to that.

That is essentially your answer?

Mr. PERLE. It is going to be a long time before they are in a position to produce large numbers of machines, let's say, comparable to the Grid with a high degree of reliability. But the length of that time will depend vitally on how much equipment they are able to get from the West.

In the city of Zelenograd, where the Soviets have their silicon valley—I suppose it would be more correct to say they have a good part of our silicon valley—they operate almost entirely with equipment of Western origin.

It is that equipment that is putting them on the map with respect to microelectronics and it is our success in restraining the flow of that equipment that will ultimately determine the answer to the question you have asked.

Senator RUDMAN. Mr. Olmer, would you like to respond to that question?

Mr. OLMER. Just a small point. I think it would be a gross underestimation of Soviet capabilities to suggest they are technologically backward. They are not. They do produce 100 percent—they have the capability for producing 100 percent of their semiconductor requirements for military application and roughly 40 to 50 percent of their semiconductor requirements for civilian application.

It is indeed true the more important issue is the control of the semiconductor manufacturing equipment, which the Soviets have been successful at obtaining from Western sources. In our judgment, they are not yet capable of manufacturing with the degree of reliability and quality assurance that has been available in the West and until recently, mostly in the United States.

We are again in that area losing our technological lead. We no longer have a clear dominance in the ability to manufacture semiconductor manufacturing equipment.

We are now under severe competition from both Europe and Japan.

Senator RUDMAN. As a matter of fact, that is precisely one of the issues that is before Cocom, is it not, as to what extent this equipment——

Mr. OLMER. Yes.

Senator RUDMAN. No one is challenging the scientific expertise of the Soviets in understanding the theory. But there is obviously a serious question as to whether or not they are able to get the equipment to put their theory in practice.

Isn't that what Mr. Perle is saying?

Mr. OLMER. Senator, the Soyuz isn't held up in space with rubberbands

Senator RUDMAN. I understand that.

Mr. OLMER. Not entirely is it composed of equipment stolen from the West.

Senator RUDMAN. Now that really is not my point, Mr. Olmer. Mr. Perle said that if the Soviet Union were suddenly to receive unlimited quantities of semiconductor and other microelectronic manufacturing equipment, all of which being quality computer control equipment, then this would have a very positive impact on their defense establishment.

Do you agree or disagree with that?

Mr. OLMER. I agree completely with respect to the semiconductor and other microelectronic manufacturing equipment. Absolutely.

Senator RUDMAN. Then of course he also says that they could shortstop that, if they wanted to, for field applications. If they could place an order with Apple Computer or IBM for 25,000 of those units with the microprocesses and the data links, then of course the fact they were behind in manufacturing would not really hurt them that much because for the short term they would have the equipment and would know how to develop the software.

Do you agree with that?

Mr. OLMER. Much of this equipment comes with its internal software prepared to be used. Presumably the kind of software necessary to net it in the battlefield effect might also be lifted by them from the United States or other Western sources. But clearly volume control is an issue we are looking at very carefully. It does have some problems, yes. There is no disagreement on concept.

Senator RUDMAN. I didn't want to get that agreement. I don't really think there is a basic disagreement on the issue. At least the subcommittee ought to understand how you both feel. I want to just have the precise area of your testimony and move on to just a very careful discussion with you of some of the things we heard in the closed session. The reason is because the issue that this subcommittee is really confronting is, whether there is something Congress ought to do to make this process work better, or it is working well enough and moving along within the executive branch so that we really ought not to do anything else. You know there are a number of bills pending, in fact, one in Congress. Ambassador Katz testified about many things we are not discussing here in the open session, but there are some things that he said that I think ought to be said in the open session.

I want to say them in terms of something that we could reflect upon, and I would like to ask each of you a question based on that. He said that after giving a history of—and this was contained in certain secret documents, but this was not certainly a secret part of those documents—that there had been a history of the problems which we all know of, that he thought this administration's role in trying to meet the problem at a high level was, to use his words, and I will use them exactly, he said that through the persistent efforts of the President and the administration, that trend had been reversed.

Second, he said that each of the three agencies represented at our hearing table this morning had a natural bias, although not indicating one had less of a concern for national security than the other.

He said there was a natural bias. I suppose today his testimony at its simplest essence, the Defense Department might like to see us sell almost nothing, the Commerce Department would probably like to sell everything, and the State Department would like to be friendly with everyone but, on the other hand, recognize our national security interests.

That is a simplification, but Ambassador Katz really was saying that each of you come here with a different mission.

He said that stress within the system was good, that the stress within the system produced a good result in his view.

His third point was that the problems were historical and not unique to this administration. But the most important thing he said and what I want to address my question to is this: Ambassador Katz said that where we are failing, if we are failing at all, is in the resolution of these disputes between these agencies in a forthright manner in which a decision is made, and once it is made that proposal is tabled. He said that he thought that ought to be within the State Department. That is no secret. That was his position. And I think what he really was saying was that unlike Yogi Berra, who once said "It is never over until it is over," I think Ambassador Katz was saying it is over.

I would like each of you to respond to how you think we can resolve this dilemma which I think is the key of the dilemmas facing this whole Cocom process and what Congress is wrestling with.

I will call on Mr. Schneider first.

Mr. SCHNEIDER. Thank you, Senator.

The institutional arrangements that we have made within the Government, specifically the Senior Interagency Group on Technology Transfer, which is part of the NSC system, happen to be the most effective means of addressing the problem of establishing an interagency agreement on matters relating to the Cocom negotiations.

What we have done in the past several months within the Senior Interagency Group on Technology Transfer has been to tighten the managerial arrangements so that that group, which is at the Assistant Secretary and Under Secretary level, will be able to adjudicate disputes between agencies and arrive at a final negotiating position before the teams go off on bilateral discussions or we go into final multilateral negotiating sessions. With respect to this process, I will let the other agencies speak for themselves, but my impression is that this process now works to the satisfaction of all of the participants involved.

Senator RUDMAN. Mr. Olmer.

Mr. **Olmer**. Senator, you raised three points and I would like to briefly comment on each of them.

One, I fully subscribe to Ambassador Katz' judgment, that the trend has been reversed as a consequence of President Reagan's leadership and decisiveness at the outset of the administration. That clearly has had a continuing effect in our ability to deal with each other internally and arbitrate differences of view and to make a more convincing case to our Cocom partners.

The second point was the question of whether the stress is a good thing. I have always maintained that it is highly desirable to have a very strong advocate role played by the Defense Department. I have said that privately as well as publicly to my compatriots in the Pentagon. You hold our feet to the fire if you think we are wrong. I absolutely believe that is critical to this process. Even though sometimes working under the gun one loses one's patience with the difficulty of arriving at a harmonious position, I would never alter the rough balance that I think is essential from each participating agency.

Ambassador Katz wrote that cable in January after an unfortunate series of events dealing with the perhaps single most important issue to be negotiated in Cocom. And it applies, I think, though you could read it differently, mainly to that unfortunate experience.

The proof of what we have now, as Bill Schneider suggests, a system in place to adequately manage the process and to deal with the dispute settlement in an effective way, will be seen in whether or not the administration, as it has committed itself to doing, presents a Cocom position by May, the first week in May.

Senator **Rudman**. In fact, the unfortunate incident, which is hardly a secret around this town anymore, was that when everyone got to Paris to start the negotiation, for it turned out that no position has been reached here in Washington. And you essentially had three arms of the U.S. Government going into a negotiation having strong disagreement with each other, which wasn't really resolved until the next day.

I have serious doubts about how well things get resolved that get resolved in that kind of short notice. That was the issue, was it not?

Mr. **Olmer**. Yes.

Senator **Rudman**. Do you think that has been fixed?

Mr. **Olmer**. I think I would like to be asked that question on April 23.

Senator **Rudman**. We will arrange it.

Mr. Perle.

Mr. **Perle**. I think, if I may say so, the problem was not so much a unified position at the outset. It was how to respond to changes in the situation on the scene. And that frequently poses difficulties in a negotiating situation. It is all very well to enter negotiations with a unified position, but as soon as counterproposals are made, a response is needed and frequently differences then develop over the rapidity over which we ought to abandon our positions.

Senator **Rudman**. Of course, in this particular case, in all due respect, Mr. Perle, we are not talking about counterproposals. As it turned out, in fact, the Defense Department had some problems with what was going to be its position, and in the early morning hours there were phone calls back and forth. So that was before anything was even tabled. Am I not correct? That is kind of a slipshod way, in my view, to conduct international negotiations?

Mr. PERLE. We have developed what I think is a very bad habit of anticipating the positions of our interlocutors and responding to them before they can even table their own views.

I think that is what was entailed in that particular situation.

But on your larger question, I agree entirely with Ambassador Katz. The situation is much improved over what it has been in the past, back a long way, beyond this administration.

I disagree with him on only one point, and that is where the final decision ought to lie, in the case of disputes that cannot be reconciled among the executive agencies. I think clearly the final resolution has to belong to the National Security Council. This subcommittee has inherited the earlier activities of the Subcommittee on International Operations which did pioneering work on this question of the coordination of executive departments, and I think a strong NSC is the only way to reconcile what are admittedly parochial outlooks on the part of all of the agencies that are involved.

Senator RUDMAN. Mr. Chairman, thank you very much for your indulgence. I am sorry to have to run over the time, but I felt it was important at the very outset of questions to get a clear statement of each of the three of these witnesses mirrored against the excellent testimony of Ambassador Katz.

Chairman ROTH. Thank you, Senator Rudman.

I just want to ask one followup question and then I will turn it over to Senator Nunn.

Have your procedures been modified so that in addition to having a common position initially you have your alternatives? It would seem to me that that is just a matter of good planning, that you just don't try to reach agreement on where you stand originally, but what are the counter-proposals going to be and what is the reaction of this Government?

Has this been modified?

Mr. SCHNEIDER. Yes. A part of what would be agreed to would be negotiating strategy which would include the various points along the way.

Chairman ROTH. Senator Nunn.

Senator NUNN. Thank you, Mr. Chairman.

Before I begin, I would like to ask the chairman and vice chairman what their guidance is about the length of time we have now because I want to make sure we accommodate.

I have a number of questions. There is no way I will be able to get through my questions in less than an hour, hour-and-a-half. Perhaps we are going to have to come back in some other hearings. So maybe I could get some guidance. Then I will just ask a few questions if we are going to be adjourning in the next few minutes.

Chairman ROTH. It is my understanding that this room is being used for another hearing at 2 o'clock. So I would take it from what you are saying, Sam, that there is no way we can complete the question by 2 o'clock.

Senator NUNN. I think that is right. May I ask the witnesses if they could come back tomorrow morning? We have another hearing scheduled on this subject with industry. I think it would be in order to defer that so we can get into these questions.

Do any of you have any problems coming back tomorrow morning?

Mr. **Olmer**. I will let you know in just a few minutes.

Mr. **Schneider**. I can come back tomorrow morning.

Mr. **Perle**. Unless it is another hearing that I am scheduled for, I will be glad to be here.

Senator **Nunn**. I will go ahead and see where we go.

Just in completing that dialog, I share Senator Rudman's sentiments that it would have been very helpful if it had been possible for Ambassador Katz's testimony to be public. I think he did shed a good deal of light and he put this whole matter in perspective.

To make sure we understand where he was coming from in the context, he also said—and I assume this is, after having been in the media for quite a bit, not quoting him—but he also said the interagency process, and this was as of January of this year, the interagency process in this technology area had never been so bad. So I think that has to be the starting point, and had everything been smooth we wouldn't be sitting here today and having these hearings.

Since January, could I ask each of you to tell me in your view whether the interagency process has improved?

Mr. Olmer.

Mr. **Olmer**. It is a very difficult question to give a flat response to Senator, because the interagency negotiating position is also one where people will begin by asking for more than their bottom line. We are in the midst of that at the present time.

I do have a feeling, based on evidence, that there is no reluctance for each agency to air its differences of view on the technical characteristics of the proposal that needs to be submitted to Cocom without any reservation and with an understanding that it has to be developed with specificity.

It cannot be simply a flat "I accept this and reject that." That is a very healthy development, and I don't believe that that was prevalent prior to January, and in particular the circumstances leading up to that unfortunate incident.

So I am at the moment cautiously optimistic, and I, perhaps, shouldn't even use the word "cautious," I am optimistic that we will meet the deadline we have imposed on ourselves, upon which our Cocom partners anticipate receiving from us a well thought out, documented presentation which does represent a strongly held point of view by this administration on computers and software.

Senator **Nunn**. Thank you, Mr. Olmer.

Mr. Schneider, the question is whether the interagency process has improved since January 1984.

Mr. **Schneider**. Yes, Senator, I believe it has. The nature of the problem has been that the interagency process in my judgment prior to January 1984 was adequate to meet the problems that we encountered up until we entered into these computer discussions.

As Ambassador Katz observed, the computer discussions are notably more complex than are the other controls that we have tried to negotiate within Cocom. The interagency process was adjusted in January 1984, and my view, based upon what has happened between January 1984 and today, is that the situation is significantly improved.

Senator NUNN. Thank you.

Mr. Perle.

Mr. PERLE. Yes; I agree with my colleague, Senator.

I would only add that there are issues of substance here as well as process, and in many ways I think the differences in substance that have developed have been more important than the shortcomings in procedure. And I think we will be able to reconcile those differences in substance which I expect will always exist because, as Ambassador Katz said, and as this subcommittee well knows, there are different orientations. We worry about this situation a lot more than some of our European allies do, in part because some of our allies are simply unaware of the use to which small computers can now be put. So I have reasonable confidence that we will have an agreed administration position in Paris for the next round of computer negotiations and that we will be successful in persuading our allies of the importance of coming to grips with problems represented by the equipment you see.

Senator NUNN. When you get into the question of procedure, it is my understanding that leading up to what has been so far in this hearing referred to as the unfortunate episode, and I assume that is the meeting late last year on the computer subject, that there were meetings that were called by the State Department that the Defense Department did not attend.

Now, we have heard two versions of that. That was the October meeting leading up to us having no position later on in the year after we called the meeting and had no position to table, at least at the outset.

Just procedurally, if that is the case, why did the Defense Department not attend these meetings? The other side of it, we have heard, that is Defense was not notified. Therefore, the natural question is who is responsible for notification of meetings?

It seems to me that that is elementary. If we cannot get everybody to attend the same meeting on an important subject, it is very unlikely we will be able to get agreement on technical substance.

Mr. Perle, I will start with you on that, then Secretary Schneider.

Mr. PERLE. I am unaware of any occasion in which the Department of Defense did not attend a meeting as a statement of policy. There are an awful lot of meetings, Senator Nunn. Sometimes half a dozen in simultaneous session. It is a little bit like the problem you have choosing among the hearings you are going to attend. It may well have been that there was an occasion on which we did not have someone available to participate. But we do not stay away from meetings for the purpose of attempting to influence decisions.

Senator NUNN. Mr. Root testified there were numerous interagency meetings that defense did not attend.

Secretary Schneider, would you comment on that? I am speaking in the timeframe of late summer and early fall of 1983, leading up to this computer meeting problem in Cocom.

Mr. SCHNEIDER. As Secretary Perle said, there are a lot of meetings that are conducted at the working level. I was not specifically involved in meetings during that time period. I was never advised that there was any boycott of meetings by any agency. It is often the case, including when we hold meetings at the senior interagency level, that for a variety of reasons an agency is not represented. For example the relevant person couldn't attend, or had some sort of a conflict. But I know of no policy reason why any agency has not participated in meetings.

Senator NUNN. So this is news to you?

Mr. SCHNEIDER. Yes.

Senator NUNN. This is out-of-the-blue type news. You have never heard of Defense not attending meetings?

Mr. SCHNEIDER. I have heard of Defense and other agencies not attending meetings, but not for a policy reason. I heard that a person was sick that day or had some other reason. It was not a policy issue.

Senator NUNN. Would you comment on that, Mr. Olmer? Have there been critical meetings that were important that Defense was not represented at; and, if so, why?

Mr. OLMER. Well, two comments. No. 1, I have no personal knowledge of any meeting in which any member of the Defense Department, from the policy level on down, stayed away because of a belief that staying away would have an effect on the outcome.

Defense's involvement is absolutely essential. If you are going to ask me is it conceivable that it happened, I would say sure, and perhaps even for that purpose. But it would be unfair to characterize the whole process because of an incident like that.

There are meetings at a very senior technical working level, and it could be that someone got a particular point of view at a time and stayed away. But I have no personal knowledge of that.

Senator NUNN. Let me get to another subject. A little while ago, Secretary Olmer testified, and I don't want to quote this inaccurately, but it was the first I have heard of it. Five to eight percent of the total technology going to the Soviet Union is what the Cocom process could potentially control.

Would you restate that?

Mr. OLMER. I am basing this on a judgment made in an unclassified study that was produced in 1981 that said first, the vast majority is available in open sources.

Second, when pressed for a number—it was reluctance to give a number—it was well in excess of 90 percent.

Senator NUNN. Ninety percent coming from open sources?

Mr. OLMER. Coming from open sources or espionage. What we were trying to do was limit the kind of technology which is accessed by the Soviets from the West that goes through the Cocom process. We don't count in that the coopting of an employee of an American microelectronics company who provides blueprints to a KGB agent.

Senator NUNN. When you say open process, what I am trying to get at, let's say 90 percent comes through either the open process or the espionage.

The Cocom process itself deals with the open process, does it not? So what does the 5 to 8 percent mean? I am not sure I understand what that means.

Mr. OLMER. The 5 to 8 percent deals with diversion of technology, either because the licensing process or the enforcement process was not up to speed.

In other words, we licensed something that shouldn't have been licensed.

Senator NUNN. Maybe I am missing you, but I thought your statement insinuated that Cocom, working at best could, can only control perhaps 5 to 10 percent——

Mr. OLMER. Yes.

Senator NUNN [continuing]. Of the technology that would be available to the Soviet Union?

Mr. OLMER. Ten percent, yes. That was a judgment reached nearly 2 years ago in a report which I will try to find for you.

Senator NUNN. All right.

Mr. Perle, I am trying to get the scope of the problem. If it is 10 percent or roughly, and these are estimates, but do you want to comment on that?

Mr. PERLE. Yes, I do. I don't agree with that figure at all. I think a great deal more is——

Mr. SCHNEIDER. There is a classification issue here, Mr. Chairman. We could provide more information on this subject on a classified basis, but I am afraid we just can't go into detail to discuss this in this forum.

Senator NUNN. OK. Let me ask another question.

Secretary DeLauer testified last week that in 1975, or 1974, approximately 75 percent of all of the advanced technology in the world originated in the United States. He further testified, if I recall the figures, that approximately 50 percent of all advanced technology today originates in the United States and that in another 7 or 8 years, I believe the year he used was 1989, there would be only about 30 percent of all advanced technology originating in the United States.

Mr. Olmer, let me start with you.

Do you agree with that generally speaking?

Mr. OLMER. Yes, I do. But it is slightly misleading because the 30 percent would probably not include the technology which is developed by U.S. companies through subsidaries or joint venture arrangements in foreign countries. But clearly the thrust of his point, with which I associate myself, is that there is a reduction in the American dominance in high technology.

Senator NUNN. Mr. Schneider.

Mr. SCHNEIDER. As a qualitative statement, I would agree that modern technology has been diffused. But I am not sure that the numerical characterization is one I would have confidence in.

Senator NUNN. Do you think it is way off or do you think it is in the ballpark? Is the trend correct?

Mr. SCHNEIDER. I think the trend is correct. That is the point I was agreeing with. The difficulty is we see the internationalization of the development of technology to the point where it tends to obscure these kinds of numerical characterizations.

Let me cite a recent development. Boeing is in a joint venture with the Japanese on developing large air frames for commercial aviation. This is technology that we had pretty much to ourselves in the United States.

Now, that process is going to be fairly widely internationalized. While we are going to remain a part of it, it will no longer be an American monopoly.

Senator NUNN. Mr. Perle, let me add one element to that.

Dr. DeLauer also testified that advanced technology has a very short half life, to use his words, and that the challenge was to make sure we got the technology, the advanced technology, out in the field. He said that the Soviets inevitably were going to get it, just a question of when, and it was the cutting edge he was looking for rather than any permanent thing.

Is that also a fair statement of your view?

Mr. PERLE. Not exactly. This is a subtle issue. This is sometimes posed in the following way: More important than controlling the flow of technology to the Soviet Union is remaining in the forefront of advanced technology, the cutting edge, if you will.

This is sometimes taken to mean that as long as we have a generation of technology that is more advanced than the generation available to the Soviet Union, we can rest content.

That, I think, is very wrong. There are critical military thresholds which, once crossed make a profound difference. And the fact that we may have gone beyond that threshold to something even better may be of declining military significance.

So, for example, achieving accuracy necessary to destroy the target is the critical threshold, and accuracy beyond that may be elegant and satisfying for the developers of the system, but what matters is whether the Soviets get the accuracy they need to destroy the targets.

So I would want to be very careful with the way in which that insight of Dr. DeLauer's is applied to the process of controlling technology.

We cannot stop it. I am not under any illusion about that. But we can slow it down. And in some areas we find the Soviets after many, many years still unable to match technology developed many years ago in this country.

One striking example that came to light during the discussion of the gas pipeline was the production of 25 megawatt compressors. It turned out that the Soviets had been attempting for years to develop compressors comparable to those in use in the West and several development efforts had failed catastrophically. So there may be areas in which we may be able to maintain the lead if we are judicious about what we transfer.

Senator NUNN. I will just ask a couple more question at this time. I hope we can come back here tomorrow.

Mr. Perle, there have been articles written about the dispute in the Defense Department between your shop and Dr. DeLauer's shop on the whole question of role within the Defense Department.

No. 1, as a historical matter, are these stories correct? It was an Aviation Week article. You probably read that, of December 2, 1983. If they are correct historically, has that intra-agency problem been resolved?

Mr. PERLE. It is correct, Senator, that there was, beginning over a year ago, a transfer of some authority that had at one time been on the policy side of the Pentagon, and that had been transferred in the previous administration to the research and engineering side of the Pentagon. It has now come back to its natural home on the policy side of the Pentagon.

Arrangements of this type are often the occasion of some dispute. And this was.

Senator NUNN. Maybe everybody claims victory here. If so, that is a good resolution of it. But Dr. DeLauer described this process as having evolved to the point wherein one member of his shop and one of your shop are involved in every decision from the very bottom all the way up. It is sort of like a two-headed monster that goes from the bottom to the top.

Whether that is workable or not, he said he would have to reserve judgment of it. Is that a correct description of it or are you really in charge at this point?

Mr. PERLE. No. Ultimately, of course, the Secretary of Defense is in charge.

Senator NUNN. Assuming he may be busy when some of these decisions are made, who is in charge in his absence?

Mr. PERLE. It is hard to answer that because there is a structure by which decisions make their way up the ladder in the event of disputes among different parts of the Department of Defense.

Senator NUNN. So is your shop and Dr. DeLauer's shop on equal terms here?

Mr. PERLE. No, I think I would have to say that the Office of the Under Secretary of Defense for Policy has the final decision, which of course is always subject to appeal to the Secretary of Defense.

Senator NUNN. Well, it is interesting. I will go back and look at Dr. DeLauer's testimony. But this directive from the President was supposed to have solved all of this. It seems to be interpreted two ways by the two people in charge.

Senator RUDMAN. If the Senator would yield. It is a brilliant compromise. They both think they are in charge.

Senator NUNN. That is great for diplomatic purposes, but I am not sure it is going to work. That is the question. We will go back and review that testimony.

Mr. PERLE. I think all of this is laid down in a lengthy document, a directive issued by the Secretary of Defense. And the issue was partly how we were organized internally. It was also partly who spoke for the Department of Defense outside the Department of Defense.

I don't think there is any question that it is the policy side that speaks for the Department of Defense.

Senator NUNN. I think there is agreement on that. I recall him saying that. You represent Defense in terms of other departments, but internally and how the decisions are made is another thing, in terms of interpretation.

I notice we are running out of time. I hope all the witnesses could be back tomorrow morning. It is 10 o'clock, but it is in Russell 236 tomorrow morning.

Chairman ROTH. Can you attend, Mr. Olmer?

Mr. OLMER. Yes, sir.

Chairman ROTH. Let me go to a more basic question. Frankly, when you are talking about computers and software and this new technology, this is a very critically important area to the future development of this country. This goes somewhere beyond merely sales as far as Commerce is concerned or Defense, as far as the Pentagon is concerned. If we don't keep on this cutting edge, I think we have some very serious problems as a nation.

I think Western Europe is already suffering from the fact they have not kept on the cutting edge.

One of my questions is: Do we make these kinds of decisions on a computer-by-computer basis or are you gentleman, any of you, able to say is there some higher level at which general policies in this area are being reviewed and discussed? Because when you are talking about this new technology, no one knows how it is going to impact of what its importance will be. I think it happens to be critically important, and it may be something on which there should be a broader policy decision than one to be made by this interagency group.

Mr. SCHNEIDER. The Senior Interagency Group does report through the National Security Council system to the President. The decision process is ultimately made at the highest levels of Government with the full spectrum of national security, economic and foreign policy interests taken into account.

[At this point, Senator Rudman withdrew from the hearing room.]

Chairman ROTH. I am not sure if it is just a national security problem. I think it is even broader than that. It is the future economic development.

Mr. SCHNEIDER. Yes. Well, that is why the final decision is not in the hands of an interagency group at the level of people at this table. It is in the hands of the President who has the opportunity to address all dimensions of it.

Chairman ROTH. Mr. Olmer.

Mr. OLMER. Senator Roth, one of the most important sources of advice for us is the private sector, and we do have an instrument known as Technical Advisory Committees. It is important to us because, increasingly, as the Government is not at the cutting edge of technology, we don't have sufficient expertise to judge the complexities and sophistication and significance of some technologies and products. And so we rely to a great degree on the advise we receive from volunteers from the private sector, some of whom have worked very, very hard, without reward, and without publicity, in an effort to help us design a technology control program.

In some areas, and back to the issue of whether or not we are controlling too much or whether it is just right, I would like to say that we require a better handle on the decontrol process for the very reason that you have identified. The extent that America can remain technologically preeminent is dependent to the greatest degress on its competitiveness internationally. If it cannot sell its products and earn a profit, it can't have money available for pouring back into research and development of the next generation of products.

All of the defense procurement in the world isn't going to make it possible for our private sector to remain technologically superior to the Japanese or French or Germans.

We have had under control for several years an entire range of medical equipment that has been controlled because the equipment has imbedded within it a microprocessor. It has been the judgment of this interagency process and against the advice of the private sector, which urged perhaps swifter decontrol of that, that it ought to be decontrolled, but we haven't done it. We are now in the process of doing that. Several hundred pieces of equipment will soon be decontrolled, this enabling, I hope, our entire industry of medical equipment suppliers and scientific instrument suppliers to again compete without the restraint of having to apply to the Department of Commerce for a license and have that referred to an interagency process.

You are absolutely right, we have to do a better job to enable America's strength to remain what it is and, indeed, to have a hope of sustaining itself.

Chairman ROTH. I would like to go back again to the basic question of general policy rather than the specifics of a particular computer.

The comment was made that this will wind its way through the NSC. Is the Secretary of Commerce a member of the NSC?

Mr. OLMER. He is not a member of the NSC. If I could take just a moment. We get 90,000 license applications a year. We did in 1983. Roughly 9,000 of these cases get referred to or could get referred to the Defense Department. Those are transactions from the West to East bloc destinations. Of those 9,000 potential review applications, cases that Defense could get, they only ask for roughly 3,000. They say the Commerce Department, under these kinds of criteria, can go ahead and make its own determination whether to approve it or deny it. DOD looks at 3,000. Of that 3,000, there are no more than 200 that are in sufficient dispute to warrant an assistant secretary level review.

And, of those 200, no more than a handful require review at a higher level because of a dispute as regards that particular computer.

In my 3 years, there have been three meetings of a group known as the Export Administration Review Board, chaired by the Secretary of Commerce, attended by the Secretary of Defense, the National Security Adviser, the Secretary of State, and on two occasions the Director of Central Intelligence, to discuss a particular license application. That is like, maybe, six items out of the 3 years that we have been here and perhaps as many as 250,000 total license applications and license issuances. Not very much.

Chairman ROTH. Mr. Perle, would you like to comment?

Mr. PERLE. No, I think that is quite right. The number of occasions on which there are significant disagreements in connection with these licenses has been very small indeed. So it is easy to exaggerate the extent of the problem.

Senator NUNN. Isn't that about to be broadened, though? Haven't we just had a directive that goes to West-to-West trade? If so, aren't those statistics we just heard really out of date?

Mr. OLMER. The agreement is about to be implemented. It has the potential for reducing the time required for a license application. And in my view, given the Defense Department's motivation in getting at what it really wants to get at, and their ability to do so being dependent on their performance in the review of these individual license applications, I suspect that we will see a swift action and very little to be in dispute that requires resolution at a higher level.

Chairman ROTH. I have further questions I want to ask, but I guess we have a vote. So I think rather than continue we will stand in adjournment until 9:05 o'clock tomorrow morning.

Thank you very much for your patience, gentlemen.

[Senators present at time of adjournment: Senator Roth and Senator Nunn.]

[Whereupon, at 1:25 p.m., the subcommittee adjourned, to reconvene at 9:05 a.m., Thursday, April 12, 1984.]

TRANSFER OF TECHNOLOGY

THURSDAY, APRIL 12, 1984

U.S. SENATE,
PERMANENT SUBCOMMITTEE ON INVESTIGATIONS
OF THE COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The subcommittee met at 9:05 a.m., pursuant to call, in room 236, Russell Senate Office Building, under authority of Senate Resolution 354, section 13, agreed to March 2, 1984, the Hon. William V. Roth, Jr. (chairman of the subcommittee) presiding.

Members of the subcommittee present: Senator William V. Roth, Jr., Republican, Delaware; and Senator Sam Nunn, Democrat, Georgia.

Members of the professional staff present: S. Cass Weiland, chief counsel; Eleanore J. Hill, chief counsel to the minority; Katherine Bidden, chief clerk; Mary Robertson, assistant chief clerk to the minority; Kitty Dias, executive secretary to the chief counsel of the minority; Fred Asselin, Glen Fry, and Leonard Willis, minority staff investigators; John Sopko, assistant counsel, minority; Sarah Presgrave, executive assistant to the chief counsel of the majority; and Howard Shapiro, majority staff counsel.

Chairman ROTH. The subcommittee will please be in order.

Mr. Perle I think is either in the vicinity or will be here in the next several minutes.

I would like to go back to the line of questioning that I was propounding yesterday. I am still not clear in my mind whether there cannot be a resolution at the lower level when it goes to the NSC or when it goes to the ad hoc committee that you mentioned I think six different times. How do you decide which route it goes for resolution?

TESTIMONY OF LIONEL H. OLMER, UNDER SECRETARY FOR INTERNATIONAL TRADE, DEPARTMENT OF COMMERCE; WILLIAM J. SCHNEIDER, JR., UNDER SECRETARY FOR SECURITY ASSISTANCE, SCIENCE AND TECHNOLOGY, DEPARTMENT OF STATE; AND RICHARD N. PERLE, ASSISTANT SECRETARY FOR INTERNATIONAL SECURITY POLICY, DEPARTMENT OF DEFENSE [continued]

Mr. SCHNEIDER. Mr. Chairman, the way we have handled these issues generally is that the vast majority of them have been handled at the working level. There have been some issues which have been necessary to work out on an interagency basis at the senior interagency level.

At this juncture we have not needed to refer any issues concerning Cocom negotiations to a higher level in terms of individual positions or anything like that. We have been able to work them out on an interagency basis, apart from the matter of computers where we had to work out a new management arrangement, so to speak, within the Senior Interagency Group on Technology Transfer. That new management effort is now in process.

Chairman Roth. Who is that new management group that you referred to?

Mr. Schneider. That deals with a subgroup of the Senior Interagency Group on Technology Transfer, including representatives of State, Defense, Commerce, CIA, NSC, and the Department of Energy, together in a smaller group. We have worked out a detailed schedule for the sequence in which various outstanding matters would be adjudicated, and we try to have this smaller group work on more or less a real time basis, to make sure that all of the agencies are together as we move in various steps toward the computer negotiations in May.

For other issues we have been able to work out interagency positions in the more conventional way, using the regular working group process.

Chairman Roth. How does the private sector have any input on those decisions?

Mr. Olmer. The private sector has not had a substantial involvement in the specific preparation of the U.S. negotiating position for Cocom. However, the Commerce Department uses a mechanism known as Technical Advisory Committees to deal with each of the militarily critical technologies. Some of the those areas have been more active than others. Most prominent among them is the semiconductor TAC. The Defense Department has a series of technical committees which on occasion they, too, solicit private sector involvement. But in terms of formulating a specific U.S. negotiating position, I think it would be fair to say we do not actively solicit their views on the specifics of it.

However, in general we have, of course, had to rely on their judgment as to what does represent latest state of the art technology.

Chairman Roth. I can partly see why they could not get directly involved in specifics, but I guess what concerns me is that as we all know, you are in an extraordinarily controversial area. There is no easy resolution of these matters, if you look at it strictly from a security point of view. If you make a mistake there, you can endanger our security. At the same time, if you become overly protective, as I think at least one of the prior witnesses testified, we can delay or prevent our continuing to be on the technological edge. I just wonder in this overall, how we can ensure broad policies that will help create an effort for technological growth?

Mr. Olmer. I think it is a fair assessment to say we have not done an adequate job in this area up to now or we would have had an agreement as of last December as to the new Cocom computer items. But it does not mean we are not now prepared to do that. As Mr. Schneider points out, we do have a mechanism to achieve a consensus within the administration. And I think that consensus will fairly represent the views of the administration, but not as to the specifics.

Chairman ROTH. Mr. Perle.

Mr. PERLE. Mr. Chairman, I disagree both with the judgment, implied judgment, that the views of the private sector are not well known to the executive branch of Government or, for that matter, to the Congress as well. Those views are a matter of public record. We are all visited by representatives of industry. We go out and meet with and speak to industrial groups. Their views are well known. They are even well represented within the interagency community, often by the Department of Commerce, which because it is sensitive to the attitude of the business community feels obliged, and I think properly, to put the business community perspective forward in interagency deliberations. There is no shortage of knowledge about their preferences and views.

Chairman ROTH. Has that been formalized or is it ad hoc?

Mr. PERLE. There are, as Lionel has indicated, a number of advisory groups which are a formal mechanism for conveying views. But the informal mechanisms are abundant.

Chairman ROTH. What are the formal ones? I know we have a formal advisory for involving trade. But do we have a formal advisory for——

Mr. OLMER. We do have formal advisory groups both in the Commerce Department and in the Defense Department as regards soliciting private sector advice on both the kinds of things that need to be controlled, and the kinds of things that the business community feels should be decontrolled. But again in terms of formulating the negotiating position, we do not on a dymanic basis solicit the views of the private sector as to whether this position is an appropriate one or not. And I don't believe that we could afford to do that. We do know the views of the private sector as regards what is high technology and what in their judgment is not high technology.

Mr. PERLE. We also know their preferences. They are not shy about expressing their view with respect to how they would like to see both our own controls configured and Cocom's.

Chairman ROTH. I suppose you have a difference of opinion on the part of the private sector. There are probably those who are opposed to technological transfers from the standpoint of competition. Is that true?

Mr. PERLE. There are a variety of views within the private sector. To give you one example, I believe it was Business Week that editorially endorsed the arrangement decided by the President in which the Department of Defense was given expanded authority to review licenses.

Chairman ROTH. That is at the heart of what I am discussing. Yes?

Mr. SCHNEIDER. Mr. Chairman, if I could comment on that, I have has a good deal of contact with representatives of the business community and I found a great deal of support for our Cocom effort. In their view it would help reduce the uncertainty or unpredictability about what items would be controlled. The business community shares the concerns that the administration and many in the Congress have about the consequences of the transfer of advanced technology to the Soviet Union.

If I could generalize, I think their concerns relate to the fact that they want these controls agreed to on a multilateral basis, as we are trying to accomplish in Cocom, so that U.S. business will be protected from having competitor copies in other countries undercutting the U.S. controls.

Mr. OLMER. Mr. Chairman, if I might, the President's Export Council, which you know very well, has a standing subcommittee known as the Subcommittee on Export Administration. It has done a superb job over the course of the last 3 years at reviewing all of the procedures connected with export administration, both enforcement and licensing and the Cocom relationship. But they are not in a position to get involved in the development of the U.S. negotiating strategy for a forthcoming Cocom negotiation.

Chairman ROTH. But you see what I am talking about is not specifics, as I indicated. What I am concerned about is how you strike the proper balance because of the legitimate concerns of the Department of Defense from the security standpoint, but at the same time striking a proper balance that we keep the technological cutting edge in this country. I think that is a matter of serious broad policy concern.

Mr. OLMER. I would have to agree with Mr. Perle. We know with some precision the views of the private sector, both the scientific community, the academic community, and industry, as regards technology transfer issues. We may not know it at any given moment as to what we are proposing to do in Paris, but that is a different matter. That deals with the specifics. In general we know.

Senator NUNN. Mr. Chairman, on this point, if I could just interject something in order to get the comments of the panel. You are right on the point that one of our witnesses later this morning, Mr. McFadden. He will be speaking on behalf of the Industry Coalition on Technology Transfer, in quoting his testimony, regarding the distribution license procedures, which I think have just been issued—is that right?

Mr. OLMER. Proposed new procedures.

Senator NUNN. They are proposed. What he says is:

> The Government did not conduct any audits prior to issuing the proposed regulations and apparently has not thoroughly reviewed the functioning of the distribution license. Further, the proposed changes were developed and published with virtually no consultation with industry, the one group that has significant expertise with the day to day operations of the distribution license.

So forth and so on.

Mr. OLMER. Could I respond to that, Senator?

Senator NUNN. Sure.

Mr. OLMER. Perhaps it is time for Mr. McFadden to get dressed down a little bit. In addition to representing that coalition, he represents a company which is responsible for having abrogated the authorities given to it under a distribution license which it had in its possession. It is currently operating under some restraint.

Proposed regulations are exactly what they mean, they are proposed, we had them under study for a year. When we issued them, we indicated to the private sector they would be given thorough opportunity both publicly and privately to come in and tell us what their views were on proposed regulations. We were unable to complete the review of the private sector response, so we extended the period twice. We have been collecting the submissions of foreign governments and of the private sector on a regular recurring basis and we are about to hold a public hearing with regard to those submissions.

Senator Nunn. You are saying they are not final and there is going to be plenty of chance——

Mr. Olmer. Absolutely not final. Some folks have the view every time the Government wants to open and close a door they ought to bring in everyone and ask whether or not it is appropriate to open or close the door. We did issue those. Again, I say they are proposed regulations, and we published them as we thought they could be implemented in the Federal Register and invited public comment.

Chairman Roth. Just let me make the comment, as the one who proposed in the trade area the advisory committees that would have the opportunity to comment during the last GATT round, in May. I am not passing judgment on what you have now, but I think there ought to be some formalized procedures where the private side has an opportunity to comment at least generally. I am not necessarily saying on the specifics, because as I see the problem, and I am not being critical of either side, these are extraordinarily tough problems of how do you adequately score our technology from the standpoint of leakage to the Russians but, at the same time, maintain the kind of effort that keeps this country technologically advanced. It is very easy for either side with hindsight to criticize. And I think you are always going to have to face that is going to be a fact in this kind of set of circumstances. But I do think it is wise, because we are dealing with policies that can impact upon our capability of new research and development, that we try to formalize that.

Let me change, because I want to turn over to Senator Nunn for a second round on his part, the two of us have been very much involved in the question of arms cooperation and NATO. It seems to me that technological transfer goes to the very heart of that problem and perhaps it is the most serious part of the problem. Do you see that we can develop policies in this area that permit real arms cooperation with our NATO allies?

Mr. Perle, would you like to comment?

Mr. Perle. Mr. Chairman, I don't believe that the principal obstacle to arms cooperation with our allies, which we very much favor, is the technology transfer problem. From time to time there are exceedingly sensitive technologies that we are loath to transfer to anyone. Indeed, I am aware of some technologies possessed by the Navy that are so sensitive they won't share them with the Army or the Air Force or, for that matter, with the Office of the Secretary of Defense, except under great duress.

So there is always going to be a little bit of that. But the principal objectives to arms cooperation are commercial, and the encumbrances of the procurement process. And in the final analysis there are often political obstacles, when it comes to making sizable acquisitions offshore that might otherwise have been made in someone's congressional district. The only way I know to advance the cause of arms cooperation is to work on each element of that problem individually, and we are endeavoring to do so in the Department of Defense. I am unaware of any significant potential program of arms cooperation that has been adversely affected by technology transfer considerations.

Senator **Nunn**. If I could just follow the chairman's question on that. I agree with him as to its importance. I think what he is referring to and what concerns me is not what has happened in that regard. I would agree with you. I think the primary problems in terms of arms cooperation have been political. And I mean that with a capital P. Including politics within the Department of Defense, in terms of parochial interests of services, and certainly including Capitol Hill where we have had numerous problems on that. But is seems to me if you have a breakdown of Cocom, let's say hypothetically the computer issue is not resolved—and I hope it will be, as you all have testified you hope it will be—but if that computer issue is not resolved and Cocom is rendered ineffective because of that, and there is some indication it is such a linchpin, then unless it is resolved it will critically damage Cocom. It seems to me, without Cocom operating effectively with some confidence on both sides of the Atlantic, that this whole area of two-way street, particularly in advanced technologies, could well go down the tube. I have a hard time seeing how we could have a vigorous pattern of transfer of technology on critically new emerging technologies if there was not at least a medium confidence level that those technologies would not be given the same degree of protection on that side of the Atlantic as they are on this side.

So I think what I interpret the chairman's question to be is basically the fear and the potential as to Cocom if we have a breakdown in this process.

Mr. **Perle**. I think the point is well taken, but I don't think there is any prospect, Senator Nunn, of a breakdown in Cocom. If anything, Cocom is in better shape today than it has been in its 35-year history. Greater attention is being paid to it. The level of representation at these high level meetings has been increased over what it was before.

You know, when we began talking to the allies about Cocom, I sat in meeting after meeting where ministers of defense and foreign affairs and in some cases prime ministers either didn't know what Cocom was or hadn't the vaguest idea of what it was doing. This has been a backwater, obscure, almost unknown for a quarter of a century. That may have been appropriate in the period where military technology was so much of the leading edge that it was easy to make decisions, but now, as many people have observed, we are in a situation where commercial technology is out ahead of the military technology. And so decisions on these dual use technologies entail greater economic sacrifice, though it is still not significant in the larger picture. I think a lot has been done to strengthen Cocom and we will settle the computer issue. It is a question of the terms on which it is settled and how we conduct the negotiations. But I don't think there is any danger of a breakdown of Cocom.

Senator **Nunn**. Mr. Olmer.

Mr. **Olmer**. Senator Nunn, I would like to support at least part of what Mr. Perle has said about getting the attention of the allies and turn it a little to suggest we have also gotten the attention of U.S. companies. I think that technology transfer issues are as important to U.S. corporations as are issues dealing with antitrust and antiboycotts and foreign corrupt practices.

Historically technology transfer issues in most or many American corporations have been handled at the level of shipping clerk or a little bit above that, and that is no longer the case. There are chief operating officers and chief executive officers that are writing the Cabinet officers in this Government oftentimes to complain about the severity of the proposed restraints or the actual restraints, but we sure have their attention. That is all for the good of it. Of course, it depends on how we work it out.

Senator NUNN. We had the allies' attention on the pipeline issue, too, but I am not sure it was the right kind of attention. Attention is not always positive.

Mr. OLMER. The argument could be made the outcome has had some salutary benefits in the Cocom process, and I would be prepared to make that argument.

Chairman ROTH. Let me just ask a couple of brief questions. Mr. Perle, in talking about these computers, am I correct in my understanding that there is no intent to prevent the export in large quantities in West-to-West trade? In other words, are we trying to restrict the number of home computers, for example, that would be sold to Western Europe?

Mr. PERLE. Well, I want to be careful about getting into the details of the proposal that we will be discussing in Paris. But the answer to that question is "No," we are not seeking to diminish the flow of small computers within the West. The question is what is permitted to be sold to the Soviet Union and its allies.

Chairman ROTH. Let me ask a second question. How does Japan—I don't know whether any of the Asian countries are in production of home computers. How do they fit into the picture?

Mr. PERLE. As a member of Cocom——

Chairman ROTH. They are?

Mr. PERLE [continuing]. They have a veto over the Cocom deliberations, as does any other member.

Chairman ROTH. They are a full-fledged member?

Mr. PERLE. Yes. They would be bound by any agreement reached in Paris.

Chairman ROTH. Senator Nunn.

Senator NUNN. Thank you, Mr. Chairman.

First, let me state to all of you I appreciate very much your adjusting your schedules. I know you are busy. To come back for second day was absolutely essential. We appreciate it.

Mr. Perle, I hope that your appearance later on this morning has not been disrupted. My understanding is you are going to be called when the Armed Service Committee needs you. I hope we can focus on questions to you at the beginning and then you will be available when the time comes for the Armed Services Committee.

Mr. Perle, the Defense Science Board Task Force and Industry International Armaments Cooperation, June 1982—and I realize there have been some changes since then—but I want to see if that has been changed or what has happened with the new Presidential directive on intradefense cooperation. Page 86, and I quote, "The political-military rational for ISA"—and I suppose ISA is really the policy side. That is not the name of your office now, is it? Isn't that what they are referring to?

Mr. PERLE. I believe that is what they are referring to.

Senator NUNN. Going back, the political-military rational for ISA primacy in arms collaboration programs has been overtaken by events. It is time that the primacy be shifted to DR&E with ISA retaining a coordinating role.

Questions. One, do you agree with that? Second, is that what has happened or has the reverse of that happened with the new Presidential directive?

Mr. PERLE. The Presidential directive, Senator Nunn, does not bear on the internal organization of the Department of Defense. I disagree with that recommendation.

Senator NUNN. I guess I mean the Defense directive.

Mr. PERLE. It is inconsistent with the Defense Department directive which in fact goes the other way.

Senator NUNN. In other words, the Defense directive gives your shop primacy?

Mr. PERLE. That is correct. With all due respect to the Defense Science Board, it does report to the Office of the Under Secretary for Defense Research and Engineering, so it is in fact an advisory group to the client in whose behalf it has made a recommendation there.

Senator NUNN. Are you saying that wasn't an objective recommendation?

Mr. PERLE. I am saying it was consistent with the predisposition of the technicians. As I think even the hearing thus far has indicated that the issues here are broad policy issues. It would be a mistake to construe them as narrow technical questions.

Senator NUNN. That is a point I think on which there is considerable disagreement. That is one of the points that really concerns me. I don't know where I will come out on this but I think that is one of the keys as to the role of the Defense Department. I think you have just put your finger on it. As you well know, I am one of those who believes the Defense Department should play a vital role and a very important role in this process. My interpretation of what Congress intended when we set this up, and I recognize in a previous life you were part of that and played a vigorous and very positive role, but my interpretation is that what we wanted from Defense was basically assessment of strategic value; assessment of technical capabilities; and that we weren't looking for philosophy from Defense. Now I know there is a thin line between philosophical beliefs and policy, and I think policy is certainly a relevant part of it. But I will have a series of questions on that very point.

Just to see how it is working now, I asked Dr. DeLauer this in our hearing last week, "Could you capsulate for us your current procedures you interpret that your office will be doing and what the office that is under Richard Perle will be doing?"

The answer he gave me, and I want to see if you agree with this, and see if we have a firm agreement as to exactly what the status is now, the answer he gave me was:

> They will be dealing with the State Department, Commerce Department, with foreign governments, embassies, for the purpose of settling the question of whether we have a narrow technology. Certain technology will be transferred in a particular

way. My organization will be responsible for the technical assessment that permits them to have that conversation in the first place.

Once that conversation is done and the details of that, the acquisistion that results from that or the activity that results from that as it affects the product or the technology or the details are handled by my people.

Do you agree with that interpretation of the new Defense allocation responsibilities?

Mr. PERLE. I would not have put it in those terms, not because I necessarily disagree with it but because it doesn't track very well with the licensing process. If I could put it in my own words, when a question of a license reaches the Department of Defense, it goes to my office. It goes simultaneously to a number of other offices within the Department of Defense and an analysis is made of the issues entailed in the decision.

The technical recommendation, narrowly construed as technical advice, is handed by Dr. DeLauer's office to my office, and that is factored in together with a number of other considerations in order to produce a judgment.

Senator NUNN. On that point, could you tell us what those other considerations are?

Mr. PERLE. Well, in some cases they are questions of armament cooperation.

Senator NUNN. What else?

Mr. PERLE. In some cases they are political, what is the status of the relationship between the Department of Defense, for example, and the country to which the export would take place. We are talking in many cases about countries outside the Soviet bloc.

Senator NUNN. Political in the sense of relationship between our Nation and those nations?

Mr. PERLE. It may well bear on the defense relationship, on the security relationship.

Senator NUNN. Well, in what political sense are you talking about? I am not sure I understand precisely what you mean by the political.

Mr. PERLE. I would think that licenses for the sale of munitions, for example, to countries we might potentially be in conflict with, would be political. Security, if you will.

Senator NUNN. Wouldn't that, by its nature, come more from the State Department? This is what I am wondering. I really wonder if Congress wants to give the Defense Department basically the directive to make essential political judgments, on the relationship between countries and so forth. This is what, I gather, is happening.

Mr. PERLE. We don't make the essential political judgments. All we can do is make a recommendation, Senator Nunn.

Senator NUNN. All right. But when that recommendation is made, the technical side comes into your shop and you are incorporating the policy side with the technical side. It seems you are making basic political judgments about the relationship between countries and what countries we may potentially have a conflict with. I don't mind you doing that as long as it is separated from the technical judgment. I don't mind the Defense Department telling the State Department what they think about the state of diplomatic relations. But, I think it is enormously important that that be separated from Dick DeLauer's technical strategic judgment about the importance of these weapons. If the technical side gets lost in the Defense Department's political analysis, then in my view we have lost what Congress intended the Defense Department to do.

Mr. **PERLE**. It is not getting lost. I don't think Dick would argue for a moment that there have been licenses that we have recommended be disapproved on political grounds that he would have been happy to approve on technical grounds.

Senator **NUNN**. I am not saying he is arguing that. This is me arguing that.

Mr. **PERLE**. In the real world it doesn't happen. We are responsible in the Department of Defense, and I believe properly, for looking at things like the regional military balance.

Senator **NUNN**. Well, that is not political.

Mr. **PERLE**. Well, security is probably a better word than political.

Chairman **ROTH**. Yes, go ahead, Mr. Schneider.

Mr. **SCHNEIDER**. Senator, if I could comment on that, State does have a central role in assessing the foreign policy interests relating to such transfers. The Department of Defense provides input on the national security dimension of this, which includes the scientific and engineering part of it that would be provided by Dr. DeLauer's office. Defense contribution also includes an evaluation of the military capabilities that such a transfer might provide to a country that could become a potential adversary, for example. This is the Defense input into the final decision, which is ultimately recommended by the Department of State in this regard. So I think the intention of the regulations in DOD, as we understand it, contributes to a well rounded defense or security input to technology transfers evaluation that involves more than strictly science and engineering estimates, but goes to the entire defense dimension of the problem.

My understanding is that the regulation has been helpful in making sure that we have a comprehensive security view before a final licensing decision is made.

Senator **NUNN**. What I am interested in is the technical side and the strategic judgment about the importance of a weapons system on the balance between the United States and the Soviet Union or between other countries that may be in conflict. In fact with the Iran-Iraqi issue, I think all of that is relevant. But I think it is enormously important in this process that the Defense technical side be separated from the Defense policy side. It can be considered in a final Defense Department position, no doubt about that. But I would like for the State Department and the Commerce Department, the President of the United States and the NSC, on the few disputes that go all the way to the top, to have a clear delineation between the technical side of the Defense assessment and the political side of Defense assessment. Now, I don't know whether that is being done, but I have a feeling there is some indication it is not being done.

Mr. Olmer, would you comment on that from a Commerce Department point of view?

Mr. **OLMER**. I was hoping I would be left out of that.

Mr. **PERLE**. So was I.

Mr. **Olmer**. I am sure.

I think you have put your finger on the central concern of many in the business community, and I think it is a legitimate concern, but I will leave to others the judgment of whether the balance is being maintained or whether it is out of whack somewhat. If you talk to some folks, they would say that there is too much policy being introduced in the Defense Department judgments and they are being masqueraded as technical judgment. I have to say that we require Defense Department technical judgments. It is absolutely essential. I mean that honestly and sincerely.

Senator **Nunn**. Are you getting that? Is there something you can read so you know what is the Defense technical judgment and whether the technical judgment may have been blended in with a policy judgment?

Mr. **Olmer**. There have been occasions in which I would say that there has been a blending of policy with the technical judgment. There are times when I would disagree with the technical judgment. But that is also part of the process and I think it is a legitimate part of the process. I don't often see that. There are very few instances when we have observed the need to raise these issues to that high a level. They are usually—I think you are expressing a concern that if there is a basic change in this balance, that it could trickle down into the working level. And I don't have a good judgment as to whether or not that has occurred.

Senator **Nunn**. Let me go on with Dr. DeLauer, the dialog we had on this point. I asked:

> The effect on security you mentioned a while ago, you separated that from the technical assessment. Who will be responsible for assessing and giving the Secretary of Defense the assessment of how this kind of transfer could affect our security?

This was the answer Dr. DeLauer gave to that question: "Both of us." And I said, "At that point that is a dual function." Dr. DeLauer says, "And the military. They review this also." Then the question, "Does that input go directly to the Secretary?" Dr. DeLauer, "It goes directly to the Secretary."

Question: "Three prongs." Dr. DeLauer, "Also the problem we have with the military, it is hard for them to assess the risk. They tell you go or no-go. They formally don't have the capability." And so forth. Do you disagree with any of that?

Mr. **Perle**. Senator, I think we probably should have started this hearing with the point by point description of how the system works because some of the questions that are being put, and indeed, the answers that are being given, are likely to lead to a misapprehension of how the system works. We are talking most of the time, in fact virtually all of the time, about the processing of cases at the working level. The question about how things get to the Secretary of Defense is not really relevant to the structure by which licenses are processed day to day.

The fact is that we have set up a committee that has subgroups, that has working groups reporting to it; and difficult cases, when they arise from time to time, and they are very infrequent, are worked through this committee on which all parts of the Department of Defense are represented. The committee recommendations can be appealed by any element in the Department of Defense that disagrees with them, in which case it will be ultimately settled by the Department of Defense. But Dr. DeLauer is represented on that committee.

I happen to chair the committee. But people from his office chair one of the subpanels of that committee. So there is pretty thorough integration throughout the process. But very few cases, let me emphasize, are ever brought before the committee since they can be settled without great difficulty at the working level. We are talking about thousands of licenses, and only in rare instances are there broad questions of policy that come to the top of the Department of Defense, questions that may have a particularly important precedent-setting character.

Senator NUNN. Of course, we did start asking questions about how this process worked. I started by asking Dr. DeLauer about the Aviation Week and Space Technology edition and the blow-by-blow description in the December 19 publication about the furious debate between your shop and Dr. DeLauer's shop. He answered that was approximately a correct article. Then I think I asked you that same question yesterday and you also said it was correct.

Mr. PERLE. It was correct there was a dispute.

Senator NUNN. We are not imagining there was a furious battle in the Department of Defense over this whole issue. Dr. DeLauer's testimony last week was bascially that he would reserve judgment about whether the new procedures are going to work. But it was clear to me in the dialog I had with him that he felt the whole process was now going to be a dual hat, that his shop and your shop were going to have dual responsibility all the way up. It is clear to me that you believe that you have been given primacy in this area.

Mr. PERLE. I think it is a difficult question to answer if you put it in terms of primacy because as I said initially the Secretary of Defense will settle issues where there are disagreements. It is not really a question of who has primacy. There is a technical dimension to these issues which is not, by the way, solely possessed by Dick DeLauer's office. The military services also comment. The Defense Intelligence Agency also comments. We frequently go to the laboratories for comment on the technical aspects of these issues. But we have a structure that I could explain in much greater detail. I don't want to take the time of the subcommittee. It is a parallel structure, if you will, in the sense that at every stage Dick DeLauer's office and other offices in the Pentagon have an opportunity to comment on a case. Someone has to manage the process.

Senator NUNN. That role has been given to your shop?

Mr. PERLE. We have the management responsibility in the sense that when a case comes to the Department of Defense, it comes to my office. It is then processed, and when a decision is reached, it is my office that conveys that decision to other departments of the Government. I won't use the word primacy. I don't think it accurately reflects the integrated nature of the decisionmaking process.

Senator NUNN. Let me go on to a couple of other questions along this line. Last week our subcommittee received testimony from Larry Sumney, executive director of the Semiconductor Research Corp. Mr. Sumney was formerly director of the Navy, very high speed integrated circuit project, known as VHSIC, in the Office of

Under Secretary of Defense Research and Engineering. In his testimony Mr. Sumney warned about the imposition of what he called overzealous controls not only regarding the VHSIC program but other areas of American high technology as well. Quoting from his testimony, he said,

> The Defense Department classification group is genuinely concerned with keeping our technology out of adversary hands.

Then he added:

> They tend to come from the field of international affairs, foreign affairs, economics and law. They are in no position to assess the technology or the effects of their suggestions on the work of technology manufacturers in the technical community. They argue from ideology.

Now how would you respond to that?

Mr. PERLE. I don't know the gentleman. In my time in the Defense Department I never encountered him. I think that is rubbish. What company did you say he was with, Senator Nunn?

Senator NUNN. You want to take notes?

Mr. PERLE. I believe he is involved in the industry and he is complaining——

Senator NUNN. He is.

Mr. PERLE [continuing]. He is complaining about the extent of the controls. If he had been at all specific about the controls he has in mind, I could comment more usefully.

Senator NUNN. Do you have a technical capability in your shop?

Mr. PERLE. Of course we do. Of course we do.

Senator NUNN. Who is your top assistant in this area?

Mr. PERLE. Well, the overall management responsibility is with Steve Bryen.

Senator NUNN. What is his background, academically?

Mr. PERLE. He is a Ph.D. in political science. He spent some years on the Hill.

Senator NUNN. Does he have any science background?

Mr. PERLE. He is not a technician, but——

Senator NUNN. What is your background, academic?

Mr. PERLE. My background is also in international affairs.

Senator NUNN. Who is the third man in your shop? Who is under Steve Bryen?

Mr. PERLE. Well, we have Don Goldstein whose background is with the intelligence community.

Senator NUNN. Do you have anybody that has an engineering, physics, technical background at the top of your shop, in a top rung of management?

Mr. PERLE. No; but these are not technical decisions made at that level. Nowhere in the Government are they. Nowhere in the Government.

Senator NUNN. Well, that may be true, but I know what my intention was when I wanted the Department of Defense to get vitally involved in this. My intention was not to get political judgments, but rather, to get technical judgments and strategic judgments and policy judgments. I realize it is a thin line here. I recognize that. I want to know what Richard Perle thinks about the policy of technology transfer.

I think that is valuable. But I don't want that to become so intertwined with the technical side of the Defense Department's input that one can't distinguish between your opinion and Dick DeLauer's.

Mr. PERLE. No; I don't think you would have any problem distinguishing between mine and Dick's and I can't think of an issue on which Dick and I disagree. The misconception here is the management of the process which involves a very large number of people. The managers are not themselves technicians any more than the manager of any of our top technical firms are themselves technicians. So the management responsibility is in the hands of people who are skilled by background and experience in pulling together the activity of a large number of people. I would not put a physicist in that job.

Senator NUNN. You have a consultant. Did you hire a consultant group to assist your shop in handling these technical judgments? Have you hired consultants that are technically inclined to give you advice?

Mr. PERLE. Indeed we have had consultants and continue to have consultants who are technically competent. I would be happy to provide a list of the very large number of technically competent people who make technical judgments.

Senator NUNN. That is fine. But what I am getting at now is you have a whole technical side of the Department of Defense. Why is the policy side hiring consultants on the technical side when you have a whole shop of people that are in charge of that?

Mr. PERLE. I am not sure to which shop you refer.

Senator NUNN. I am talking about DeLauer's shop.

Mr. PERLE. There are a handful of people in DeLauer's shop who are very much involved in this process.

Senator NUNN. What I am trying to get at, are you getting your technical judgments from that part of the Department of Defense.

Mr. PERLE. Yes; indeed we are. But they in turn are getting it from the whole Defense research establishment. That has always been the case and the only issue, the only issue you hear——

Senator NUNN. Why not let them?

Mr. PERLE [continuing]. Has been the management of that process.

Senator NUNN. If you are doing the policy side, why not let the technical side flow from the R&D group?

Mr. PERLE. It does.

Senator NUNN. Why do you have consultants for your own side?

Mr. PERLE. Because there are broader policy issues than the judgment of the technician on a specific chip. The interesting questions are seldom the narrow technical issues. There is seldom dispute on the narrow technical issues. Indeed, if you press me, I don't think I could give you a single instance now of a significant technical dispute.

The questions tend to be much more difficult questions, like—I hesitate in open session. I could give you some interesting specific examples that are currently active, but not in open session.

The number of people involved in managing the technology transfer process in the Department of Defense has never numbered more than a handful. It is much larger now than it ever was before because my office was expanded to enable us to perform that management function with care and deliberation and in a timely fashion. What happened before the change, Senator Nunn, is that a small number of people working in Dick DeLauer's shop, at a rather low level of Dick DeLauer's shop, managed the process. That is, the licenses came in, license requests came into them. They then solicited technical opinion throughout the Department of Defense.

Most of the technical advice that was ultimately brought to bear did not come from individuals within Research & Engineering. It came from the military laboratories, from the services, from the intelligence community, elsewhere.

This small group at a low level in Dick DeLauer's shop then integrated the information that had to bear on the license and a decision was made. The only thing that has changed is that the management function now resides in my office rather than in Dick DeLauer's office. And a larger number of people are involved in the process.

Senator NUNN. But that technical information was all flowing, as you just described it, into the Research and Engineering part of the Department of Defense. And what you have described, as I understand it, in the last minutes, is that you are getting that information, but then your group on the policy side has also hired consultants to bring in technical judgments to your shop.

Mr. PERLE. No, no. No, no. I am sorry. I may have misspoken. Not to deal with licenses. We have brought in consultants on broad issues of technology, but in some cases the same consultants that were used previously and continue to be used by research and engineering. There is not the sort of division that you seem to be implying here between——

Senator NUNN. I asked Dr. DeLauer why your shop would need consultants on technical matters when he was basically in charge of that, and he said, "You will have to ask Mr. Perle; I can't tell you."

Mr. PERLE. We are not bringing in consultants to handle cases. There may have been a misunderstanding.

Senator NUNN. What are they doing?

Mr. PERLE. Well, they are doing different things. Among other things, we have brought in consultants for the purpose of organizing, rationalizing the system by which licenses are processed. So that for the first time—look, in the years it was under R&E, it was never automated, it was never computerized. The interface with other elements of the government was less than adequate. And a deliberate decision was made that this activity could be better carried out where it is now being carried out. I think the results speak for themselves. The backlog has been eliminated. People have been added to handle the responsibilities so that we are able to provide business with more expeditious answers, and I think the performance tells the story.

Senator NUNN. Well, I don't disagree that progress has been made. What I am really puzzled about, though, I still do not have in my mind a clear line of distinction between the two parts of the Department of Defense and what you are doing. Clearly policy is a part of this. I think there is a danger on one hand, though, that policy may become basically political and diplomatic policy should flow from other parts of the overall government. The other danger, as I see it, is if your shop basically has people who are not equipped in the technical area, which is fine, and you hire consultants to give you technical advice when within the Department of Defense, as I understand it, all the technical information should flow from the R&E shop. It looks to me as if you are really having a competitive battle, on one hand, with the technical side and on the other hand the policy side plus its technical consultants.

I think maybe it will work. We will have to wait and see. We have to recognize so far that within the Department of Defense, according to the Aviation Week article, it has not worked.

Mr. PERLE. Look, the Aviation Week article was written before this arrangement was put into place and it was based entirely on the views of Dr. DeLauer while the decision was being made by the Secretary. It was entirely tendentious and misleading.

Senator NUNN. It is not like an ancient history. It was about 2½ months ago.

Mr. PERLE. That is right. And the decisions were made subsequent to that.

Senator NUNN. It was during a critical period when on the most crucial technology, in fact the linchpin, the computer, it was during a period where our own government could not——

Mr. PERLE. It had nothing to do with——

Senator NUNN [continuing]. Could not get a position together to present to a meeting we called at the Cocom.

Mr. PERLE. Those issues within the Department of Defense had absolutely nothing to do with the Cocom negotiations, nothing whatever. The issue was simply which office was going to handle munitions licenses. And while we keep talking about the distinction between technical and policy considerations, in most instances the policy considerations are far more important than the technical judgments when it comes to munitions cases.

For example, Senator, when we have to consider whether to permit the sale of a missile, say an air-to-air missile, to a country in a region if instability, a judgment has to be made about the regional military balance, about the impact of that sale on the defense establishments in other countries that may be affected by it and so on. That isn't a technical judgment. You turn that over to a physicist and it is almost certain to come out wrong. That is a policy judgment. And because most of the issues that we have to deal with are predominantly policy questions and not technical questions, they are properly handled on the policy side.

Senator NUNN. I don't disagree with that at all. I think that is a proper judgment for your shop after getting the technical assessment from the DeLauer shop. It puzzles me why you would need a group of technical consultants to make these decisions.

Mr. PERLE. We don't have that.

Senator NUNN. Maybe you could furnish for the record exactly what your technical consultants are doing if they aren't making technical judgments.

Mr. PERLE. I will be glad to give you a list of the consultants and the projects they are working on. We bring in consultants to give us broad advice which we think is necessary and important. For example, on the question of computers and software, we would like to have some judgments independent of the judgments of everyone else, including the Army, Navy, Air Force, the laboratories and the like, about issues bearing on software.

[The information requested which was subsequently received by the subcommittee follows:]

Assistant Secretary of Defense,
Washington, DC, July 16, 1984.

Hon. Sam Nunn,
U.S. Senate,
Washington, DC.

Dear Senator Nunn: You requested additional information on the use of consultants by my office in the course of the testimony I gave in April on the role of the Department of Defense in the export control program of the United States Government before the Senate Permanent Subcommittee on Investigations. In response to this request, I have cited below the contributions made by consultants under my office, with particular attention to the COCOM List Review negotiations. In addition, I have enclosed an attachment which addresses the questions surrounding the Military Critical Technologies List.

Mr. Brad Smith, of B-K Dynamics, Inc., has advised my office on small computers for purposes of the COCOM negotiations. Mr. Smith's efforts were very important as they constitute the first time the military utility of small computers was systematically studied. We will be glad to brief you on this crucial and timely issue.

Mr. Duyck Van Gorder, from GTE, has provided clear technical advice on the international switching market. His advice was instrumental in developing our position for the COCOM switching negotiations and remains crucial to their successful outcome. I might add, Mr. Van Gorder has provided his services free of charge.

Dr. Jack Benoit, of the MITRE Corporation, has provided invaluable technical assistance for the COCOM computer negotiations. Dr. Benoit is assisting my office, as well as the Office of the Under Secretary of Defense for Research and Engineering, in the formulation of Defense Department positions on various issues under negotiation which my office has identified as being crucial.

Mr. Richard Hohn, of Cincinnati Milicron, provided technical advice to the U.S. robotics negotiating team in Paris on several occasions. Mr. Hohn was designated by the Robotics Industry Association as an industry representative and provided his services to my office free of charge. His thorough familiarity with the international market, as well as technical manufacturing details, was instrumental in presenting our Government's position on robotics in COCOM.

The consultants cited above are not the only channels through which we have sought advice. Defense has also frequently met with industry to probe and learn about critical manufacturing technologies. I believe that the participation of the private sector has dramatically increased our effectiveness in COCOM negotiations.

Sincerely,

Richard Perle.

Attachment.

RELATIONSHIP BETWEEN MCTL AND CCL

(1) The MCTL identifies, in each of 20 categories of technology, arrays of know-how, keystone Equipment and materials, and goods accompanied by sophisticated know-how.

(2) The MCTL is constantly being evaluated and updated to reflect advancing technology.

(3) The technologies identified in the MCTL primarily contribute to the development, production or utilization of items being controlled for national security purposes on the Commodity Control List (CCL).

(4) The know-how, i.e., technical data, portion of MCTL is not now fully incorporated in the CCL. A major interagency effort, however, is now underway to correct this deficiency with a goal of completion by March of 1985.

(5) Although there are some items on the current CCL that are controlled unilaterally (i.e., Robotics), updates to the CCL normally result from changes in the agreed COCOM international embargo lists.

(6) Normally the U.S. updates the CCL by first proposing a change to the COCOM embargo. When COCOM agrees on the U.S. proposal that agreement is implemented by the U.S. in the CCL.

(7) Since most U.S. COCOM proposals have their origin in the MCTL, there is usually a time lag between an MCTL update and a CCL update.

(8) For example, early versions of the MCTL showed only about a 40 percent correlation with the CCL versions published at the same time.

(9) Recent efforts, however, to streamline the MCTL, as well as approximately 100 U.S. proposals being considered in the current round of COCOM negotiations, have resulted in higher correlation.

(10) The draft 1984 MCTL was distributed for review by offices in the Defense and Energy Departments on 1 June 1984. The new MCTL is expected to be published by 1 October 1984.

(11) Approximately 95 percent of the goods, products and materials in the new MCTL are reflected either in the current CCL or in a pending U.S. proposal to COCOM. This is significantly higher than the estimates 3-4 years ago and is the result of streamlining improvements in the MCTL, as well as new U.S. proposals to COCOM.

(12) One can say, therefore, there is a 95 percent correlation between the newest (1 June) draft of the MCTL and the latest "about to be agreed" CCL (contingent on COCOM acceptance of U.S. proposals).

Senator NUNN. But that sounds an awful lot like to me you are getting too involved in the technical side of it. It sounds like we have two groups in the Department of Defense getting head over heels in the technical side and one group is always a matter of harmonicity. I am sure you won't believe it, so I am trying to be as forthcoming as possible, and add to that an editorial comment that the give and take is a useful process. Even when we disagree it is still useful.

Chairman ROTH. I think Mr. Perle said earlier that performance tells the story. I would ask both you, Mr. Olmer, and Mr. Schneider, is there any evidence in your view that the internal dispute at the Department of Defense has adversely affected the overall process?

Mr. OLMER. I would say that if there were a straight technical judgment made by Mr. DeLauer as regards the Cocom proposal, we probably would have had a proposal and it would have gone forward, yes.

Mr. PERLE. That is rubbish.

Mr. OLMER. One man's rubbish is another man's accuracy.

Mr. PERLE. That's complete rubbish. The fact is the Department of Defense in its approach to these computer negotiations has represented a departmental view.

Chairman ROTH. Mr. Olmer, do you want to comment?

Mr. OLMER. You asked for an opinion, and I certainly have no evidentiary basis for arriving at that judgment, and it could be wrong, but it is my opinion.

Chairman ROTH. Mr. Schneider?

Mr. SCHNEIDER. From my perspective in dealing with both munitions licensing cases and the establishment of our positions at Cocom, it has not been affected by this management dispute in the Defense Department.

Senator NUNN. That is where diplomacy comes in, right, Mr. Schneider?

Mr. SCHNEIDER. No, I have dealt with circumstances where there have been disputed cases before this event and after it. It has been no more difficult to resolve the cases before than since. From my perspective in a day to day sense, it would take a more sensitive political seismograph than I have to take note of any change in the process stemming from the adjudication of this dispute within the Department of Defense.

Chairman ROTH. Well, because of the importance of what we are dealing with, I suppose some dispute is not necessarily undesirable. I mean these are awfully tough questions. While the process must work and proceed, and I think it is a serious matter when you go to negotiations and don't have a position, at the same time I think if there are those who feel very strongly, there ought to be the opportunity to make their voices felt.

Let me go back to the restructuring of this. Do you think, Mr. Perle, a new process will work or do you think the problems internally will continue?

Mr. PERLE. No, I think the problems internally have been resolved, and they had 99 percent to do with the fact that some responsibilities were being shifted from one office to another. And let me say it was no more agonizing, Senator, than some jurisdictional disputes that I sat through in the Senate of the United States. It involved exactly the same kinds of concerns and issues. And as you well know, once those things are settled, things settle down and the process resumes.

Senator NUNN. You are not suggesting we have problems with jurisdiction between committees and so forth, are you?

Mr. PERLE. Never. Never. But when they do get resolved, committees carry on and they do their work, and I would ask you to recognize that that is what happened here.

Senator NUNN. Sometimes they never get resolved on Capitol Hill. I hope you are not using us as a model to straighten out your own. I would be very discouraged if I thought we were the model.

Mr. PERLE. We hope to perform at least as well, Senator.

Chairman ROTH. One of our previous witnesses who retired from the government in September of 1983 insisted that no conclusions were reached at a Cocom followup meeting in December 1983. There is also the implication that the December meeting was chaotic. He wasn't there. Would you care to comment, Mr. Perle?

Mr. PERLE. We would prefer to get into the details of that in closed rather than in open session. But there is nothing unusual about a Cocom meeting that doesn't reach a conclusion. Indeed, for several years previous the computer issue remained unresolved. So it is easy to exaggerate the importance of one meeting. But that really is a worm's eye view of what is a complex negotiating process.

Chairman ROTH. Senator Nunn?

Senator NUNN. Mr. Chairman, I just have a couple more questions. I would have probably a thousand more if we are going to go into details, but I think we have covered the concepts here. That is what we are getting at.

Since we will have more testimony this morning from industry, let me just pull one more statement out by Mr McFadden who is representing the Industry Coalition of Technology Transfer. Quoting from his prepared statement:

> In its current form, the Militarily Critical Technologies List does not provide an appropriate compilation of militarily critical technologies, at least not for the purposes of export control. The list as developed by the Defense Department is approxi-

mately 700 pages in length. It is classified secret and includes virtually all modern technology.

Could we get comments from each of you on that statement? I think particularly the question of whether that has to be classified secret; and, if it is classified secret, does that in itself become self defeating?

Mr. OLMER. I would like to ask Mr. Perle, whose list it is, to begin commenting.

Mr. PERLE. It is actually Dick DeLauer's list.

The list was prepared by the Research and Engineering side of the Defense Department, actually done under contract by a private contractor for the most part.

Senator, the list is a resource. It is not in itself an embargo list. And so while the MCTL is itself classified, most of what is in the MCTL finds it way onto the commodity list in the form——

Senator NUNN. This is not the embargo list?

Mr. PERLE. No.

Senator NUNN. Is it a background list?

Mr. PERLE. It is an intellectual tool for trying to make more discriminating judgments about what should be on the embargo list. I don't think the publication of the MCTL would make much difference because the fruits of that research tool are published in the form of the control list or embargo list, and that of course is widely available and it is available to industry to comment upon.

Senator NUNN. Mr. Schneider, do you have a comment?

Mr. SCHNEIDER. Yes; I would like to reinforce the notion that the MCTL is not the instrument by which we control exports. It has been a resource, for example, in the 108 proposals we made to Cocom. The MCTL was a valuable technical encyclopedia, so to speak, to understanding not all modern technology but technology that has relevance to the production of weapons systems or defense-related products. For that purpose, it is useful.

There is a misapprehension that we are trying to control everything on the Military Critical Technologies List and that is not true.

Senator NUNN. Mr. Olmer?

Mr. OLMER. I think something more needs to be said about what Congress intended when in 1979 it included in the Export Administration Act instructions about the MCTL. There was never an intent and it certainly would be impractical to assert that the MCTL is a guide for licensing officers.

Senator NUNN. Is a what?

Mr. OLMER. A guide for licensing officers to make judgments or recommendations on.

Senator NUNN. You are saying it is not?

Mr. OLMER. It is not. But the clear intent was that it be converted into a control list. Mr. Schneider and Mr. Perle have indicated that that has in fact happened. It hasn't happened. The vast majority of critical technologies, of arrays of know-how and, a variety of other things, have not been converted into the embargoed list that the Cocom partners subscribed to or that we even in some instances unilaterally control. It is a process of gruesome proportions. It has been under way in surges over the last 3 years. it is one that absolutely requires private sector involvement.

Now we have attempted to use these technical advisory committees to help us take the broad general guidance in the MCTL, which is between 700 and 800 pages, and to break it down into specifics. I could provide for the record unclassified excerpts from the document which would indicate the general and the inability to use that general for purposes of making recommendations on a license application. We have not made much progress toward making one list. We are in the process of submitting additional proposals to Cocom for accession to the Cocom list, many of which do come from the MCTL process.

But we are a far cry from saying the MCTL has served its purpose. It has guided our process. We now have one list which is effectively and essentially an agreed upon administration and allied position on what needs to be controlled and what does not need to be controlled. We are a long way from achieving that objective. And that objective is what I believe the Congress intended in 1979.

If I am any judge of the hearings that have taken place with regard to the renewal of the 1979 act, that is exactly what the Congress has had in mind.

Senator **Nunn**. Perhaps, Chairman Roth, you are absolutely clear about what we have heard on this list. I am not. What, Mr. Olmer, do you believe the list should do as opposed to what it is doing? It sounds like you are saying—I don't know whether you are saying it is working properly or you are saying that you have——

Mr. **Olmer**. No; I apologize for the lack of crispness. It may have something to do with the nature of the MCTL or my inability to articulate clearly.

What we should have is a single list, one list, which the private sector has access to and knows represents the embargoed lists of items, products and technology.

Senator **Nunn**. You are saying there shouldn't be a separate list from the embargo list?

Mr. **Olmer**. No, there shouldn't be. I don't disagree with the MCTL having been put together when it was. The process that has got to move along a little more speedily is the conversion of that MCTL into a useful document for the private sector and for relatively junior licensing officers in the Commerce Department.

Senator **Nunn**. You are saying that list is not the licensing list?

Mr. **Olmer**. That is correct, it is not.

Senator **Nunn**. But it should merge into it?

Mr. **Olmer**. It should absolutely be merged, yes.

Senator **Nunn**. And it has not?

Mr. **Olmer**. It has not.

Senator **Nunn**. Mr. Perle?

Mr. **Perle**. Ninety-five percent of the products on the MCTL are in fact on the commodity control list. So there is a high degree of congruence between that list and the one that Lionel is referring to as a list useful for the license process in the private sector.

Senator **Nunn**. Mr. Olmer is shaking his head on that.

Mr. **Olmer**. I think that is a rather high proportion.

Mr. **Perle**. Well, I stand by that.

Senator **Nunn**. Could you furnish that for the record so we will know?

Mr. PERLE. Now not all of those items have been successfully negotiated in Cocom yet. But virtually everything necessary to harmonize our commodity control list and the Cocom list is now under negotiation. At the conclusion of these negotiations we expect to have precisely what Lionel is talking about, which is one list that applies internationally as well as for American exports.

Senator NUNN. So you both agree on the goal then?

Mr. PERLE. We both agree on the goal and I think we are 95 percent of the way there with respect to the relationship between the MCTL and the commodity control list, which is the published list available to industry and licensing officers. The reason, by the way, for keeping the list secret is that, as I said, it is a tool and so it is not simply an enumeration of items. It also has a military assessment of the potential applications of those broad technologies. And that would be of obvious intelligence value.

Chairman ROTH. If you have—whether it is 95 percent or a somewhat lower figure—when do you think the work will be completed?

Mr. PERLE. Well, it is a process without an obvious termination point, as technology evolves. The only point I wish to make——

Chairman ROTH. Let me say obviously there will be new technolgies that will have to be worked on. But when do you think you will complete what it now covers?

Mr. PERLE. I think it is close to complete now in the sense those technologies on the MCTL that are not on the commodity control list are not on it for specific reasons. And in the main, the effort to identify critical technologies through the exercise of establishing of the militarily critical technologies list and to bring those technologies under control has been accomplished by the incorporation of that list in the commodity control list. The remaining step is to bring our allies the rest of the way so that there will be essentially one list that governs the restraints of all this together.

Chairman ROTH. Mr. Olmer, do you want to comment?

Mr. OLMER. There are three basic parts to the MCTL process. One is called the Keystone Equipment. One is called equipment that would be potentially useful to a potential adversary. And the third is called arrays of know-how, a rather ambiguous term that clearly incorporates technology. Now we can't mix and match technology and product. With respect to the two first categories, that is Keystone Equipment and equipment that would be potentially useful to an adversary, a good deal of progress has been made to formulate proposals to submit to Cocom. That process is under way and we hope it will be completed by the end of this list review in the fall of 1984.

We have yet to come to grips with the third and some would say at least equivocally important area of technology, of the arrays of know-how. Technology per se is not now on the commodity control list. The U.S. controls technology unilaterally and in some, with few exceptions, Cocom does not. Cocom does not control know-how, very few exceptions. What we are trying to do is to develop a U.S. position on arrays of know-how and submit it. And that part has not been done yet.

Chairman ROTH. Mr. Schneider or Mr. Perle, do you want to comment on that?

Mr. **Schneider**. Just to reinforce the point about Cocom—we have had the list review under negotiation for well over a year—and a number of the areas have already been settled and have been incorporated in the list of embargoed items. As a consequence, we are well down the path toward the objective of a single list to which we all agree. I am optimistic that we will conclude the list review some time this year. I think we are very close to the objective we all seek.

Chairman **Roth**. What about the third section? What did you call it?

Mr. **Olmer**. Arrays of know-how.

Chairman **Roth**. Arrays of know-how.

Mr. **Schneider**. The nature of the controls that we are proposing often have the know-how in some ways embedded in the equipment because the equipment is usually connected with a process. That is how you make a semiconductor chip. The equipment is part of it, but the knowledge of how the equipment is operated is one of the ways in which we get control of the transfer of the leading edge of advanced technology. At least for purposes of control, that is frequently a good proxy for controlling the distribution of knowledge.

Chairman **Roth**. But if I understand the earlier testimony, we really hadn't come to grips with that, arrays of know-how.

Mr. **Schneider**. In the sense that I just described it, technologies of equipment that we are trying to control are generally coupled to manufacturing process. For example the controls over access to the equipment also inhibit transfer of technology to use that equipment, and adequately serve as a proxy for controlling the diffusion of the knowledge of the technology. But this is not the only factor in the Cocom list review. In some cases, the United States has proposed that Cocom nations agree to control technology unconnected to product controls. Several such proposal have been accepted. We are occasionally seeing Cocom exceptions cases for technology alone. So I would have to clarify that the "arrays of know-how" mentioned by Mr. Olmer are among the technology controls accepted by Cocom now, though perhaps not as clearly as Commerce would like to see.

Chairman **Roth**. Senator Nunn.

Senator **Nunn**. A final question, Mr. Olmer. I understand you have a study you would like to explain briefly and introduce for the record. We welcome that.

Mr. **Olmer**. Thank you, Senator Nunn. Yesterday, I referred to the decline in competitiveness of U.S. high technology industries. I would like to introduce for the record a study which is now 1 year old entitled "An Assessment of U.S Competitiveness in High Technology Industries." It describes the reason why high technology is important to the United States and it points to some disturbing trends in the maintenance of U.S. high technology competitiveness.

It is unclassified. It has been given broad circulation into the American business community, into academia, and I think it still represents a reasonably accurate assessment of where we have been over the last 10 years and where we are trending.

[The document referred to was marked "Exhibit No. 6," for reference and may be found in the files of the subcommittee.]

Mr. **Olmer**. I would like to comment further on a remark that Senator Nunn referred to yesterday from testimony at some previous hearing with regard to the United States having been responsible for 75 percent and then 50 percent and then by the end of this decade 30 percent of the world's technology.

Some of my colleagues don't share that judgment, so I tried to find out where it originated. It originated in a study of the National Science Foundation and it has been reported widely. The basis for it, the judgment on which that assessment was made is on the number of patents and on the number of inventions and on the amount of R&D expenditures.

Now, the 30 percent is a projection and, of course, it is an estimate that may not be borne out. But the decline, the trend, from 75 percent to 50 percent, is a reasonably accurate one, if you use and stick with the criteria that the NSF used.

I would, if you would permit me, also like to introduce for the record an unclassified CIA report of April 1982, entitled "Soviet Acquisition of Western Technology." It does describe within it some of the particularly onerous features of Soviet efforts to obtain Western technology and I think supports the view they expressed yesterday to the effect that the licensing process is responsible in some way for 10 percent of the problem, that 90 percent of the problem or more than that generates from our open society and clandestine efforts of the Soviet apparatus.

Senator **Nunn**. Could you point out the part of that that does say that? What you are saying when you say the licensing process is responsible for it? As I understand what you are saying is, if a licensing process worked absolutely perfectly and if we shut off everything that could be shut off by the licensing process and had complete coordination from Cocom in shutting that off, we would only interrupt 10 percent of the technology. Now is that flow to the Soviet Union, is that the right interpretation? I still don't know what it is.

Mr. **Olmer**. It is close to the right interpretation, but there are two aspects of the Cocom process. One is the licensing process. Second is the enforcement process. A great deal of what the Soviets have obtained and are clearly intent on obtaining is through dummy corporations, for which licenses are asked. And so one would have to make a judgment as to the effectiveness or efficacy of the licensing process if we in the Commerce Department authorized the transfer to a dummy corporation and that corporation was simply being used as a cutoff for the Soviet KGB.

Senator **Nunn**. Maybe you could furnish for the record, if you would, your interpretation of the CIA document in words that are as precise as possible.

Mr. **Olmer**. Yes, sir.

[The information requested and received subsequent to the hearing was marked "Exhibit No. 7," for reference. The 1982 CIA Report entitled "Soviet Acquisition of Western Technology," may be found in the files of the subcommittee. Mr. Lionel H. Olmer's letter follows:]

EXHIBIT NO. 7

U.S. DEPARTMENT OF COMMERCE,
THE UNDER SECRETARY OF INTERNATIONAL TRADE,
Washington, DC, May 29, 1984.

Hon. SAM NUNN,
U.S. Senate,
Washington, DC.

DEAR SENATOR NUNN: At your request, I am providing you with a copy of the unclassified 1982 report, entitled "Soviet Acquisition of Western Technology," for insertion into the April 11, 1984 hearing record of the Permanent Subcommittee on Investigations. That report does not, however, contain the figures which are mentioned in your letter to me of May 8, 1984, and which I offered during my testimony regarding the percentage of Western technology acquired by the Soviet Union through open sources, illegal means and espionage, and diversions. Those percentages derived from estimates provided the Department in a July 1983 clarification of the report by the Deputy Director of the Technology Transfer Assessment Center.

Sincerely,

LIONEL H. OLMER.

Chairman ROTH. Let me ask one question on the first document. When you say we were dropping to 30 percent, our percentage of trade has dropped, although the actual amount of trade we do dollarwise has increased, but other countries have caught up, is this a case where other countries partly because of their growth of their economies are catching up with it, or is there a real——

Mr. OLMER. Mr. Chairman, I understand your question. There are parallel thoughts, however, being perhaps run together. The document that I have introduced into the record does not talk about 75, 50, and 30. It talks about a general decline in the competitiveness of U.S. companies operating in roughly nine different high technology sectors. The reference to 75, 50, and 30 is a projection of the National Science Foundation upon their calculations as to the number of patents which have been issued and the amount of money that is spent for research and development.

And clearly a large reason for that is the rise by other countries, the expenditures of other countries, for research and development, in developing part of the world. That is clearly a part of it.

With regard to our study, certainly a significant consideration has to be the rise of the trade of other countries and trade conducted outside the United States but under U.S. control, or, if not under U.S. control, a substantial U.S. interest. So a certain amount of loss of market share had to be anticipated.

My report that I have referred to attempts to distinguish between that part which is to be assumed as a national rule consequence of rising expectations in the developing world, targeting programs in parts of the world who recognize the importance of high technology and so on, distinguish that part from a general decline. There is a very significant observation that I think is borne out by the data, that the United States is getting less for its high technology goods than it used to, which suggests we aren't as competitive. We are simply not able to command the price for it because it is not as unique. There are more people competing and our ability to compete is being reduced. We are not catching up is the suggestion.

Chairman ROTH. Is there any evidence that our security practices are partly responsible for that?

Mr. **Olmer**. Well, there is no assessment in that report of Soviet capabilities in this area. If you are suggesting that the licensing process may have inhibited American companies from competing in world markets, there is no calculations as to that and I do not——

Chairman **Roth**. I was going to the decline in our research and development efforts.

Mr. **Olmer**. Yes, I think that the decline in our research and development efforts certainly has caused us to pay a price that is measured in terms of market shares generally. I don't think at all—some businessmen might assert to the contrary—but I do not believe our competitiveness has yet been affected by our technology control policies. That is a point of view that some business leaders express, and some people have expressed, including the President's Export Council, that these kinds of severe restraints will inhibit their ability to make sales around the world and that they will lose market share.

They will therefore not make sufficient profits to convert those profits to more research and development and so on.

They haven't been able to make the case. I don't believe they could make the case. And it is our position, more firmly, that that will not be the case.

Chairman **Roth**. Mr. Schneider?

Mr. **Schneider**. Just a cautionary note on the statistics—I have found evidence that is anecdotal at this point rather than rigorously assembled. To a considerable degree, owing to the pace of development of modern technology, the notion of relying on a statistic relating to the number of patents filed may not be wholly helpful as a guide to the development of technology because many companies appear to be finding it in their interest to develop the technology and maintain it on a proprietary basis rather than try and protect the technology with patents because of the uncertainty of that. I wouldn't rely too heavily on the statistical basis for that to the extent that patents were involved.

With respect to private R&D expenditure, there are other variables relating to, for example, tax treatment that tend to influence the way in which statistics get reported. It is sometimes a little misleading.

Chairman **Roth**. Mr. Perle?

Mr. **Perle**. Mr. Chairman, two things. First, with the permission of the subcommittee, I would like to have added, at some appropriate point, in connection with my remarks yesterday, statements that had been prepared by the Defense Intelligence Agency, the Joint Chiefs of Staff, and the Defense Nuclear Agency.

Chairman **Roth**. Without objection.

[The statements referred to were marked "Exhibit No. 8," for reference, and may be found in the files of the subcommittee.]

Mr. **Perle**. Second, just a brief comment on this latter issue, and that is the competitiveness of American high technology industries. I was glad to hear Lionel say that he doesn't believe the case has been made that whatever problems our high tech industries are encountering can be attributed to the controls we place on the export of high technology to the Soviet Union and its allies. It is a trivial percentage of the total volume of business and a price that we think we ought to be prepared to pay in the interests of national security.

For the sake of the lost business, it would not be wise in our judgment to permit that technology to flow to the Soviet Union. There undoubtedly are encumbrances of a bureaucratic nature that result from the licensing process that have some intangible effect. But I really don't believe that the heart of the problems our high tech industries are encountering can be associated with the system of export controls. If there were a desire to relieve those problems, the Congress could do with a single stroke, a great deal more to help by better tax treatment for investments in research and development. That would have a profound and immediate effect, whereas dismantling what we believe are vital security measures in order to slightly disencumber the business community from the licensing process would have grave consequences on national security and only trivial effects on the competitiveness of our R&D.

Finally, the Defense Department is as concerned, and indeed I think probably more concerned than anyone else about the retention of an American and, in a broader sense, a Western lead in high technology. That spells the difference between security and insecurity in a situation in which the Soviets field vastly more numbers of virtually every major weapons system than we do. We need that cutting edge. We don't want to do anything that diminishes that cutting edge. We spend a great deal of money sponsoring research and development in order to maintain the cutting edge.

I just didn't want an impression to arise that somehow the Department of Defense is insensitive to the importance of maintaining a lead in high technology. We take that very seriously.

Chairman ROTH. Obviously when you are talking about technology, you are talking about policies at the highest level, not necessarily within either the Department of Defense or Department of Commerce. I must say those kinds of policies are such that I don't feel it is appropriate they even be determined by NSC. I think it is much more important and something that the other agencies, such as the Department of Commerce, ought to be involved in. But that is another matter.

I have no more questions.

Senator NUNN. I have no more questions, Mr. Chairman. I may have a few for the record. I would certainly welcome any amplification of remarks. After you all review the record and want to add something to it, we welcome that. I again thank all of our witnesses. I think we have received good, candid expressions from all of you. That is, I think, the essence of what we need to do to be able to sort out the problems and sort out the progress that has been made and sort out the opportunities in terms of national security protection and our economic base. So I thank all of you for appearing. You have been most helpful.

As we begin to sort through and try to make recommendations, we would expect to have a continuing dialog with each of you. I paticularly appreciate you coming 2 days in a row when you had not planned on it. But I thought this morning was essential in terms of completing the record.

Chairman ROTH. Let me add my thanks for your cooperation in coming again this morning. I will just make one general observation, that I think Congress and this subcommittee are rightfully concerned with procedures in the controversy. But I would also say that perhaps if there were no controversy in these difficult questions, maybe there wouldn't be the freedom of discussion that is necessary in trying to resolve these very difficult matters. As I indicated at the beginning, I think all of us on hindsight can use a lot better judgment. These kinds of decisions do impact very seriously on the future development of the country.

I congratulate you for each of your interests in being here today. Thank you very much. We will keep the record open 5 days for further questions.

Mr. SCHNEIDER. Thank you.

Chairman ROTH. There will be some further witnesses.

At this time I will call forward Mr. McFadden, who is here on behalf of the Industry Coalition on Technology Transfer. I would also call forward Mr. Lyon, who is an official of Texas Instruments. He was, as I said, also associated with the Industry Coalition on Technology Transfer. However, in his capacity here today as an expert witness, who has served in both Government and now in the private sector in technology matters, he is testifying only for himself. I want to make the record clear that Mr. Lyon's remarks reflect only his own views, not necessarily those of Texas Instruments or the Industry Coalition.

I would also point out that he is testifying today voluntarily and freely of his own volition.

At this time, gentlemen, I would ask you both to rise. Raise your right hand. Do you solemly swear to tell the truth, the whole truth, and nothing but the truth, so help you God?

Mr. LYON. I do.

Mr. MCFADDEN. I do.

Chairman ROTH. Please be seated.

At this time I am going to request Senator Nunn to take over the hearings.

[At this point, Senator Roth withdrew from the hearing room.]

Senator NUNN [presiding]. Thank you, Mr. Chairman.

I will add one footnote. Mr. McFadden was an outstanding member of the staff of the Armed Services Committee for several years, so we are glad to see him back up here as a witness this morning. Also, Mr. Chairman, I echo your remarks about Mr. Lyon. We have had several conversations with Mr. Lyon. He has been very helpful. I understand completely that he is not representing any views this morning except his own views. We appreciate him being here voluntarily. Mr. Lyon, we welcome you.

Mr. LYON. Nice to be wanted.

Senator NUNN. At this point, it is my understanding, Mr. Lyon, you have a short statement. We would be glad to have that and short comments by you. Mr. McFadden has a more lengthy statement, and I know that having been an outstanding member of the staff of the Armed Services Committee he will be able to summarize that statement with great precision.

So I will ask you, Mr. Lyon, to lead off in whatever comments you would like to make. Then we will come back with questions for both of you after Mr. McFadden's statement.

TESTIMONY OF W. CLARK McFADDEN II, ON BEHALF OF THE INDUSTRY COALITION ON TECHNOLOGY TRANSFER; AND H. B. LYON, AN OFFICIAL OF TEXAS INSTRUMENTS, WHO IS TESTIFYING ONLY FOR HIMSELF

Mr. LYON. Senator, I am pleased to be here and especially appreciative of your clarification of conditions under which I present my views.

My remarks stem from a lifetime of participation in high technology in all sorts of roles. My test of responsibility for my position this morning is that it squares with the totality of this experience. I have been an operational military pilot, a scientist, a military technology program manager, technical advisor to the White House, in the State Department, deputy director of an international organization, and a manager in a high-tech firm.

In order to go back into all of that experience, I really can't speak for any of the organizations.

My test of the problem as I will define this morning is not related to declared policy or description of process but to an assessment or my own as to whether all of the phases add up to a systemic response that makes sense.

My benchmark for defining whether things are sensible is the difference in field of performance that results between U.S. and NATO forces and those of our military adversaries, the proscribed countries if you will.

There is a gap between these two performance levels, and the test of correctness of a policy for me is whether it changes that gap to the advantage of the United States.

One conviction which I hold very strongly as a result of this experience is that all policy initiatives impact on a determinant of the U.S. capability and on the Soviet capability. So our test of whether our national interest is served by any policy initiative must therefore be based on an objective analysis of the impact on both of those performance capabilities.

In your hearings of a couple of years ago, you report stressed the importance of good communication and cooperation with U.S. multinational industries, and I support that fully.

I would urge the problems solving approach to the solution of all of these issues that we will be talking about. It has been my personal experience, having dealt with almost every individual you have talked to, that when you do this, you can find solutions, and when you have this test of credibility all parties come together.

When I put this all together, I am convinced that despite its weakness, Cocom is the only mechanism for slowing down the flow of strategic technology to proscribed countries, that U.S. leadership, consistency, and clarity is essential to a strengthened Cocom. Clear U.S. policy guidelines and well defined positions are critical. The international control list and U.S. export controls must emphasize control of know-how, these arrays of know-how that you talked about earlier, over the control of products. And last, the list reviews must be more effective and lists maintained up to date.

This is my short statement.

Senator NUNN. Thank you very much, Mr. Lyon.

Mr. McFadden?

Mr. McFadden. Thank you, Mr. Chairman.

It will be difficult to keep mine as short as that, but I will do my best.

Senator Nunn. We don't expect you to. I was just giving a little bit of a prod and incentive. We probably will need to cut it down somewhat. We want to hear your views in full. We have time. Go right ahead.

Mr. McFadden. I think I can summarize this in under 15 minutes and then try to give you time for questions.

Senator Nunn. That is fine. Your complete statement will be put in the record.[1]

Mr. McFadden. I am an attorney in the law firm of Verner, Liipfert, Bernhardt & McPherson and I am pleased to appear before the subcommittee today on behalf of the Industry Coalition on Technology Transfer.

The seven trade associations that make up the coalition cover the spectrum of high technology industry. Let me just reiterate those for you: The Aerospace Industries Association of America, Inc.; the American Electronics Association; the Computer and Business Equipment Manufacturers Association; The Electronic Industries Association; the Scientific Apparatus Makes Association; the Semiconductor Equipment and Materials Institute, Inc., and the Semiconductor Industry Association.

Through these associations, the coalition represents over 3,000 high-technology companies with 4 million employees in the United States and worldwide sales of over $250 billion.

It is natural that companies represented in this coalition would be deeply concerned about U.S. export controls. These companies have long supported national security export controls and have in no way opposed controls on commodities that could significantly contibute to the military potential of any U.S. adversaries. In addition, these companies more than any other sector of U.S. business directly and continuously are affected by U.S. export controls.

The coalition was formed for a very particular purpose, to address export control regulations. The coalition was borne out of a broadly held conviction that U.S. export control regulations increasingly fail to reflect the realities of technology transfer and the international marketplace. Perhaps more importantly, recent regulatory proposals from the executive branch have sent a shock wave through the high technology industry. The disturbing implications of these proposals for U.S. technology development, international competitiveness, and national security deserve a concerted industry response.

I want to highlight that these are proposals at this point. I don't want any misunderstanding about that.

But before I go further, I would like to address the realities of technology transfer and the international marketplace. Much of this has been gone over yesterday.

U.S. high-technology exports roughly 30 percent of its output compared to 8 percent for U.S. manufacturers generally. High-technology exports comprise almost half of the exports from the U.S. manufacturing sector. The positive balance-of-trade contribution in the high-technology sector continues to grow. Productivity in the high-technology sector is increasing at a rate six times faster than U.S. business in general; and the inflation rate in the high-technology sector during the 1970's was only one-third of the national average.

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[1] See p. 290 for the prepared statement of W. Clark McFadden II.

At the same time, the majority of our Nation's research and development is conducted by high-technology industry. This technological innovation has preserved the U.S. qualitative edge in weapons systems. Indeed, the U.S. high-technology industry supplies over two-thirds of all Defense hardware purchases for our military forces.

While the size and importance of high-technology exports has grown, the United States has lost the overwhelming production and technological superiority that it once enjoyed over the rest of the world. There is hardly a single area of advanced technology that is available exclusively in the United States. Increasingly, technology is being developed outside of the United States or through the interaction of United States and foreign sources. Our Cocom allies, for example, employ more scientists and engineers than the United States. While the U.S. remains the largest single exporter of high-technology products, the Cabinet Council on Commerce and Trade reports that foreign firms account for roughly three-quarters of all free world exports of high-technology products. This underlines what Secretary Lionel Olmer said earlier this morning.

The United States is increasingly dependent upon these foreign sources for its own technology development. Access to foreign markets also provides economies of scale and a crucial margin to sustain research and development.

Finally, there has been a fundamental change in the relationship between commercial and military technology. Defense research and production increasingly depend on commercial developments, such as high-speed integrated circuits.

These conditions mean that U.S. high technology is far more sensitive to the effect of export controls then ever before. Despite the sweeping changes over the last decade, however, virtually no significant adjustments have been made in U.S. export regulations. Regulations continue to proliferate. The result of this has been that U.S. export controls are now more cumbersome and less effective.

Senator NUNN. Let me ask one question, Mr. McFadden. Right at the end of the hearing with the previous witnesses, Mr. Perle said that the amount of technology that is affected by our export policy in terms of world trade is trivial.

Mr. MCFADDEN. I would like to comment on that. I think the general position of industry is in accordance with that statement with respect to East-West trade. East-West trade is not a major area of activity or concern in a business sense for U.S. industry. And the controls on East-West trade have had in my view really a trivial impact on United States competitiveness.

But that is not the concern and the question that industry is facing now. The concern is on East-West trade, and there the effects have been significant and particularly, if these developments that have been proposed are implemented, the effects could be very dramatic and substantial.

Senator NUNN. Have the effects already been significant with West-West trade or are you basically speaking of the apprehension of what will happen if the proposals go through as written?

Mr. McFADDEN. The effects are substantial.

Senator NUNN. Already?

Mr. McFADDEN. Already. We don't have a situation where industry is saying they can't continue to do business. The controls are something they have learned to live with. They are difficult. They do put us at a competitive disadvantage. But we think they can be designed, streamlined, and improved in a way that we can live with them. And that is our basic focus at this point.

We are concerned that the direction of many new regulatory initiatives is not going to allow us to do that. That is why we formed this coalition and that is why we are here.

We are not at all interested, as Mr. Perle emphasized, in dismantling our control procedure for critical exports. It has never been the view of responsible U.S. business and certainly the coalition we represent today. Our focus has been on West-West trade and the burdens and difficulties that are presented in that arena to U.S. business. That is where we would like to see the changes proposed in a very careful, deliberate way, with full consultation of industry.

That is the thrust of what I intend to address here today.

What has been the Government's response to this situation you described? The executive branch has made a commitment to expand its enforcement efforts. Preventing illegal diversion has always had the support of responsible U.S. exporters. Since we are told that most sensitive equipment and technology reaches the East bloc through illegal means, strong enforcement measures are appropriate.

The concern of the coalition has been in another area, development of new export control regulations, and specifically three items: The proposed distribution regulations, proposals dealing with technology transfer, and the continuing failure of U.S. export regulations to take account of foreign availability. These may seem like technical and esoteric concerns, but they go to the heart of export control operations for both the Government and industry, and that is why we want to address them today.

The distribution license authorizes U.S. exporters to make multiple shipments of medium-level technology items over an extended period to free world destinations, West-to-West trade. As such, high-technology industry depends on the distribution license as its principal vehicle for licensing exports.

The original purpose of the distribution license was to streamline the licensing process. The recent regulatory proposals by the Commerce Department go in the opposite direction.

There are several dimensions. They would raise the qualifying threshold for distributors in sales territories, making it more difficult for U.S. exporters to arrange for distribution and sales networks effectively. The regulations would also require distributors in countries outside of Cocom, Australia and New Zealand to provide their customer lists to the U.S. Government and obtain certifications from their customers that they will comply with U.S. export laws. Foreign customers for U.S. products will naturally resist these requirements. They view them as an extraterritorial instrusion that in some countries will be contrary to data protection laws. They will simply seek to adjust their supply patterns by purchasing similar, non-U.S.-origin goods elsewhere.

The proposed regulations would also exclude certain items from eligibility for export under distribution license procedures and seemingly without reference to commercial usefulness, foreign availability or military significance.

Perhaps the most distressing aspect of these regulations is they would limit the availability and scope of the distribution license so as to force a greater reliance on individual licenses. More case by case licensing will raise the competitive cost for U.S. industry and increase the burdens on an already overloaded licensing system. By accommodating a series of transactions, bulk and multiple licenses, on the other hand, such as the distribution license, afford industry the operating flexibility it needs to compete internationally. That is in West-West markets.

Equally important, because they encourage the Government to assess a company's export system rather than numerous individual transactions, bulk licensing mechanisms offer the best prospect for effective national security control.

Rather than being cut back, bulk licensing arrangements should be encouraged and depend primarily on the competence of the exporter and reliability of the consignee. It is the direction of future regulatory proposals that we are concerned about here.

Addressing the subject of technology transfer, the Department of Defense and Commerce Department have informally circulated separate regulatory proposals to impose new controls on the transfer of critical technical data to all destinations. These proposals represent a fundamental shift in U.S. export control regulations. Although the coalition has not yet developed a detailed proposal, there is broad agreement as to the applicable principles. I want to just highlight the principles we think the coalition ought to apply to any new regime to control arrays of know-how, technology and technology data.

First, any approach to the control of militarily critical technology must be strictly confined to items directly and significantly related to the military potential of an adversary.

In its current form, the Militarily Critical Technologies List does not provide an appropriate compilation of militarily critical technologies, at least not for purposes of export control. Let me just put that statement in context. To be sure, the Militarily Critical Technologies List is not now being used as a control list. But we have some major concerns about that. One is pending legislation before the Congress that would make the MCTL, Militarily Critical Technologies List, integrated into a control list and make it a control basis for U.S. technology.

Second, we have seen a regulatory proposal, this isn't a broad concepts paper, but 40 pages of detailed regulations, which would impose a new scheme for technology control. It is addressing only the semiconductor and semiconductor manfacturing sector. But in that proposal, as the basis for identifying technologies, they use the relevant section of the Militarily Critical Technologies List, or appear to have used that. Our concern is that while Defense and others may not be using that list now for control purposes, there is a great deal of momentum pushing in that direction. We don't believe the list in its current form is a useful device for control decisions, as a control list.

The second principle, it would be both futile and self-defeating for the United States to develop an extensive system of controls on technologies that remain available on an uncontrolled basis from our principal allies and commercial competitors. Any changes in existing export controls on technology should reflect, rather than precede, agreement reached with our friends and allies.

As Secretary Olmer said, with very few exceptions, our Cocom allies do not have specific controls on technology. We would like to see multilateral agreement before we move to impose it on our own industry.

Third, any new controls on technology transfer should be accompanied by a corresponding reduction in controls on end-products.

Finally, export licensing must be sufficiently restrictive to control the exports of militarily critical technology while sufficiently flexible to allow U.S. companies to trade and compete in the free world. We believe that this objective could best be furthered through a licensing mechanism that takes advantage of existing commercial safeguards and the shared interests of U.S. companies in protecting sensitive proprietary information.

In this area, the coalition and high technology industry has developed a so-called comprehensive operations license. This is a licensing mechanism that is more stringent than current regulation. But it is designed not to cripple the free world operations of U.S. companies. As proposed, the comprehensive operations license is a procedure for multiple transfers of critical technology and required Keystone Equipment to consignees within an exporter's established network of control. Eligible consigness would include subsidiaries, joint venturers, suppliers, and other entities that maintain contractual obligations with the exporter prohibiting disclosure or transfers of critical items.

The comprehensive operations license can accommodate the special characteristics of high-technology industry with a minimum of interference. It also has the advantage of allowing Government to build upon a corporation's existing network of self-imposed, self-patroled controls on the export of sensitive technology. No company can stay in business for long without a sophisticated system of internal controls.

Again, bulk licensing proposals, such as the comprehensive operations license, are indispensable if controls are to be increased on critical technology and U.S. industry is to maintain its technological vitality.

There are several other aspects of the proposed regulations that raise problems and concerns for U.S. industry. Treatment of foreign nationals, the treatment of certain sales and operations and maintenance data, the treatment of certain scientific and educational data, all raise concerns. In these areas there would be new restrictions and new licensing requirements. Because of the potential impact on the U.S. high technology industry of these proposals, the coalition believes that any new technology transfer controls should be implemented only with great care and full participation of industry.

I would like to turn to the last subject, foreign availability. No subject has been more frustrating to U.S. high-technology than foreign availability. When items are available to potential adversaries from uncontrolled sources, U.S. export controls only damage U.S. industry. When items are available in Cocom and, hence, are subject to multilateral control, there should be no restrictions on U.S. shipments of functionally equivalent items to Cocom countries.

The objective of the coalition with respect to foreign availability is pragmatic—how to enlist the Government to make foreign availability determinations consistent with the proliferation of technology in the West and existing multilateral controls? Despite elaborate and explicit statutory direction that such determinations should be made, foreign availability has simply not been reflected in U.S. export controls. I would just like to emphasize that in the hundreds of pages of the comprehensive Export Administration Regulations, not one provision is dedicated to a procedure for making foreign availability determinations. And this is one of the basic principles underlying our whole export control system.

Senator NUNN. Who is supposed to make that determination as things now stand, which Department?

Mr. MCFADDEN. The Secretary of Commerce and the Commerce Department have primary responsibility for it.

Senator NUNN. You are saying they don't do it?

Mr. MCFADDEN. They have not done it. They are trying to do it. They are expanding to do it. But over the last decade, and even in the last few years, there have been virtually no determinations of foreign availability. Indeed, to my knowledge, all the efforts to deal with foreign availability have been in the East-West trade context, not in West-West trade. So it is just an item that has not been operationally taken into account in any effective way. That is a major concern of U.S. industry.

The coalition is working with U.S. export officials to focus Government resources on rendering and implementing foreign availability decisions. And we do think there is a sincere effort and commitment being made in that area. But several other things have to be done. First, we have to shift the burden to the Government, the burden of proof, in making foreign availability determinations, especially as they relate to Cocom.

At the same time, the coalition is attempting to strengthen industry participation in the Government's foreign availability determinations. Here again this is an area where industry possesses unique expertise and experience that is available nowhere else.

Adequately adjusting for foreign availability could probably do more to simplify and rationalize existing U.S. export regulations than any other single measure.

Now I would just like to summarize the goals of our coalition and what we intend to do in the future.

Like any regulatory scheme, U.S. export control regulations must be periodically reevaluated. The work of the coalition has just begun, but its initial goals are well-defined. First, U.S. export regulations must focus on systems for control, including business proprietary systems, for exports to the West, rather than an overwhelming number of individual transactions; second, export controls must accommodate to the realities of international trade, including widespread foreign availability of items subject to U.S. controls; third, U.S. controls should be eliminated on items that are subject to multilateral control, such as in Cocom; and fourth, industry must be assued a greater role in the formulation and implementation of U.S. export controls regulations.

By moving in accordance with these goals, we believe that U.S. high technology can be protected from potential adversaries without undermining the vitality of U.S. high technology industry.

Thank you, Mr. Chairman.

Senator NUNN. Thank you, Mr. McFadden.

At this point I have to make one phone call. I am going to take about a 4-minute break and come back for questions.

[A brief recess was taken.]

[Member present after the taking of a brief recess, Senator Nunn.]

Senator NUNN. I am informed, if you will all wait just a minute, I am informed by some Defense and State representatives here that there have been a couple of statements that Cocom does not control technology know-how. Defense and State people have indicated to us that they do control technology know-how. They indicated that when the product is controlled, that the know-how is also controlled, and that that is specifically stated in the Cocom rules and regulations.

Mr. McFadden, I believe you said that know-how wasn't controlled. Do you want to respond to that?

Mr. MCFADDEN. Yes. I may try to elaborate on it. I think earlier this morning Lionel Olmer indicated that the United States doesn't impose controls on technology, pure technology either.

Senator NUNN. I think he did say that. And the Defense and State people say that is not correct.

Mr. MCFADDEN. That is not technically correct. In fact, like most of the aspects of the export control regulations, it is kind of a hodge-podge. There are instances on the commodity control list where technology, technical data itself is controlled. It is a separate item, essentially treated as a commodity. Certain software and others are examples of that. There are also, in the classification categories, for each of the major divisions of commodities, there are requirements that say the commodity as well as the accompanying technology is controlled.

Most of the controls on technology are based on relationships to the commodity, so if you sell a commodity and the accompanying technology, it is all subject to the same control. And that is the same in Cocom; but it is often misunderstood.

What we were talking about was pure technology, pure know-how.

Senator NUNN. You mean pure know-how as separated from hardware?

Mr. MCFADDEN. Yes. That is the shipment of designs instead of shipments of hardware.

Senator NUNN. When you say designs, is that technology or hardware?

Mr. MCFADDEN. For commodities?

Senator NUNN. Are you saying there is no control at all for know-how standing alone, separate from the commodity?

Mr. McFADDEN. No. There are some controls. You cannot generalize, that there is none whatsoever.

There are a series of general licenses and restricted general licenses. But the fundamental structure of the control system, first and foremost, controls technology by virtue of its relationship to a commodity. And as the commodity and the shipment and disperals of that commodity is controlled, so is the accompanying technology. What we are addressing in one of the major concerns with the new initiatives on technology control is how do you just control the dispersion of know-how itself. Going back to the Bucy Report several years ago, the recommendation was made we ought to refocus our export control system on critical technology, that is know-how, design and manufacturing know-how, and try to relieve the controls on all of the products that are particularly at the low end of the technology spectrum. And so it is that general momentum which we are concerned about.

Industry is not opposing it as such. In fact they were largely responsible for initiating it. We are concerned about the direction that it seems to be taking.

Senator NUNN. I will ask the State Department and the Defense Department if they want to comment for the record at this point on that so we will have as much as we can a clarification of exactly what is and what is not controlled.

Mr. Lyon, our staff has had a chance to talk to you. It is my understanding one of the things you have stated to them is there seems to be a lack of continuity in Government policy. The things that happened 10 years ago and mistakes that were made and so forth are repeated. There is not a continuity of either policy or personnel. Is that, in your view, accurately stated? If so, what do we do about it?

Mr. LYON. It is my understanding that all institutions have trouble with institutional memory and keeping the growth of concepts and ideas constantly evolving. In any export control area, the problem of institutional memory is really at two levels. One is the level of technical expertise which isn't so bad. I have had friends who have been involved as technical advisers in the Government and out of Government for 10 to 12 years. However, I think you put your finger on part of the problem today where the technical judgment, if you will, of how many millions instructions per second, how many disk drives, how much does it cost, who makes it, really isn't the issue. On top of that technical description is a layer of subjective judgments, a band, if you will, of more political or subjective determinations that then result in the national position.

It is in that area that I think there is a lack of institutional memory. I can't find any criteria, guidelines or rules in my mind that have constantly been evolved and improved upon as we went along.

Senator NUNN. In the so-called policy area or subjective area. Is that what you are talking about?

Mr. LYON. I would like to call it more the subjective judgment because it has to be made. There are a lot of issues that cannot be analytically defined. It is hard to analytically define the intent of the Soviets to acquire. It is hard to define the intent of a firm to sell. It is hard to define the level of reliability of a consignee in a quantitative form.

Senator NUNN. What would you have the Government do about that?

Mr. LYON. Well, we have to have some check for balance and/or somebody who overrides the process to make sure that the judgments are properly presented one against the other.

Senator NUNN. You heard the discussion. You were sitting here when we had a discussion with Mr. Perle about whether indeed the subjective judgments basically were merged with the technical assessments, whether that was happening or not. Do you believe that is happening in the Department of Defense or elsewhere?

Mr. LYON. I am not sure I would look at the problem that way. I would look at it more who is accountable for those judgments if everything is merged into a big ball of wax. Who has to defend and justify a certain position in that process? I think the chairman and many of the speakers this morning pointed up that if it is subjected to a good debate, we will all get on board. But if it isn't subjected to that kind of debate, if people aren't prepared and don't have clear backup for their arguments, then we can arrive at conclusions that are not necessarily representative of the national interests.

It is in that position that I feel the system has not had this cumulative experience. I have watched individuals come and go from this thing. I was on the technology transfer study in the White House in 1972. I think there were about 22 people involved. I don't know of one other person in that group who is even anywhere near this discussion today. And so lots of people have come in and left. They all start from scratch. They do an excellent job coming up to speed. They learn a little bit. They don't contribute much to any corporate memory. Then they leave and new people come on.

Senator NUNN. What do we do about that? That is the problem throughout almost every aspect of the Government.

Mr. LYON. Yes, sir. The places where it seems to have worked have been where individuals were able to blend the skills that you were raising this morning, that do have some understanding of the technology, that do have some understanding of dynamics of industry and do have some understanding maybe of the physics and chemistry as well as the policies and all of these other forces, and bringing all those skills to the final resolution. It begs the questions should industry be involved in sorting out the final issues for say Cocom positions and things of that nature.

Mr. Olmer says the industry isn't brought in but their views are brought in. Which views?

I don't have a simple institutional solution for that, sir. I think I have some criteria I would apply to the decision to see if it was balanced.

Senator NUNN. Why don't you go ahead and tell us what they are.

Mr. LYON. The first criteria to me is that at all levels we have struck that balance. As an example, in the Technical Advisory Committees, where Mr. Olmer mentioned the participation of the private sector folks in the Technical Advisory Committees. If you go through that process, the little bit of scholarship and analysis that I have seen, convinces me where that process works well is when the Government members of the Technical Advisory Committees were also there. You know, the TAC's are not just private sector, they have Government members and industry members. They are joint groups.

Where they have participation of both sides, success usually arrives. The TAC member who is from the Government side is usually the participant in the internal Government process called Technology Task Groups [TTG]. They are technical advisers to the international process arriving at Cocom decisions.

There are a couple of cases where success has been achieved, industry views have been balanced, these more subjective judgments have been worked out, the package was put forth, and a consensus was achieved in Concom. In that case, the criteria were balanced at all levels. There was a good mix and debate between Government and industry, and in one case I know the industry member went to Cocom and presented the case.

So what I am essentially saying is where there is good objective debate, all of the issues are considered at all levels and balance is achieved at all levels, success usually occurs.

Senator NUNN. The difficulty it seems to me, is what part of industry would be represented? Obviously the particular industry that had something to sell would want to be part of the process. Are you speaking of industry in the generic sense, an impartial group of people in industry, or are you speaking of a particular seller of a particular item?

Mr. LYON. Well, if you have a particular salesman who is working on a commission, you have a certain urgency in his point of view. But the corporations I believe are fairly balanced. It has not been my experience to find any senior official or manager in a U.S. corporation who doesn't recognize the importance for this kind of balance.

Now, there is another point that you put your finger on. It is hard to define what skills are needed from industry. Quite frequently they have a person in a TAC who is a licensing expert or a traffic manager or maybe even an engineer, but the skills they really need are those who do competitive analysis, who understand the capability of our foreign competitors and who understand what are the emerging trends in the marketplace.

Now it is hard for us to get those people into the paperwork process and approved and motivated to come to Washington 1 day a month for 12 months, or whatever it is, to participate in a TAC. But it is not impossible for us to find new mechanisms for industry to reach down inside their organizations and get the judgment of those skilled industries and essentially bring it to these resolutions.

Senator NUNN. Can you do it through the present mechanisms of the Technical Assessment Committees?

Mr. LYON. It is my conclusion we can't. I tried through the associations that I have been working with now for about 3½ years to try and identify the skills, to try and find the mechanism to reach out to those skills and to try to motivate the firms to have those people spend their time and give us their judgment, then consolidate that judgment into a given point of view and turn it into the Government.

The few times we have been able to do it, it has worked very well. But it is not a lack of intent; it is just a huge structure of very busy people who are all trying to compete in the world marketplace.

Senator NUNN. What would you do about it?

Mr. LYON. I think I would have the industry associations, much as in the work plan of the coalition, in particular in the Foreign Availability Group of the Coalition, try to define the skills needed and try to consciously work with the Government to find a mechanism to bring the judgments of those people into the process.

Senator NUNN. Could you get an industry coalition and group that would have a team of experts, a broad array of experts in this overall area? And if you could get that put together through some type of coalition, then would you be able to provide a mechanism that would at least be sensitive to possible conflicts of interest?

Mr. LYON. I think so. I think that is the basis for the formation of the coalition. It wasn't stated exactly that way, but it was to try and find a means that we could get access to the skills in industry and to sue their judgment, exercise it properly, consolidate it into an industry point of view, which is what you have asked for, a consoldiated view.

Senator NUNN. Mr. McFadden, would you comment on that.

Mr. MCFADDEN. Yes, I would. But I should preface it by saying that the coalition itself has not taken a formal position on this and has not worked out their views on it. It is an important subject. They are trying to do that. Let me give you a couple of concerns that I think have come up earlier.

One is the limitation on industry consultation has been reflected in interagency deliberations. The extent that industry does not participate, have an input into interagency deliberations, they are going to be constrained. Their advice can only be as good as the particular Government department that is using it in the interagency process. So there has been a problem in the past, it seems to me, given that there have been tensions and lots of changes in the Government's handling of interagency deliberations. It has been very difficult for, say, the TAC's, which are a vehicle that provide advice to the Commerce Department, for that single vehicle to provide sound counsel on an interagency basis.

Senator NUNN. You are saying it is not sufficient for industry to pour all of your advice through the Commerce Department?

Mr. MCFADDEN. I think there is a serious limitation if that is the way it happens, because the decisions are made, whether it is Cocom or the major policy decisions for U.S. export controls, on an interagency basis. That is one limitation.

The second limitation: As Mr. Lyon has indicated, there have in the past been some extraordinarily successful efforts of industry consultation, and Government has had the best technical advice and best general advice. But it seems to me that rarely is industry asked the right question or all of the questions. Typically the consultations groups of industry are focused either on the technical aspect, maybe some particular aspect, but not on the overall question of control; not the kind of policy dimension that Richard Perle was referring to this morning.

And I think in that regard there is not the great problem of conflict of interest that many have alleged.

U.S. industry is not so concerned about East-West trade that they are willing to abandon any concept of the national interest here. That is not the case. The concerns of industry tend to be primarily what are the market impacts in the West, what is going to work effectively, what are the foreign availability concerns? That is very compatible with the U.S. Government position. And several industry members find that their own subsidiaries are consulting with foreign governments in these matters and they are shut out from the U.S. Government in these matters.

Classification poses another problem. The difficulty of frustration that comes from participating for a long time and not having anyone pay any attention to your advice. People don't want to come down and spend 2 days in Washington every 6 months for no apparent impact. So you do tend to lose good people at various times.

Senator NUNN. Are you saying that is the case now?

Mr. MCFADDEN. I am not suggesting that is the overall situation. I know that has happened in some cases. I know in other cases they have obtained the most determined and highest level and full kind of industry participation.

Senator NUNN. Are you both saying that the only input you have is through the Commerce Department, or are you saying that is the main input you have? Are you saying you don't have adequate input in the Defense Department deliberations or State Department?

Mr. MCFADDEN. No, no, I am not saying that. I am saying the input is very fractionated. We have various inputs to various agencies; State, Defense, and several parts of Defense and different ways in Defense, and Commerce and so forth. And this input has all the problems we have talked about. Sometimes it is better than other times. Sometimes they get the right questions, sometimes they don't.

The problem is they do not have any real input into the interagency process, the ultimate deliberations where the decisions are made. it just hasn't happened. It seems to me at that level industry could make a very worthwhile contribution, and U.S. policymakers, U.S. officials, would be fully able, like they are in the trade arena, to discount any parochial interests or limitations that industry may have.

Senator NUNN. I asked Mr. Lyon whether he saw any problem in the Defense Department itself in having the other agencies and the people reviewing it as they go up the line, NSC, the President, and whether there is any problem is separating the technical side of the assessment from the policy side of the assessment. Is that any problem at this time as you see it, the way Defense makes its decisions?

Mr. MCFADDEN. I think that is an inherently difficult problem. To the extent you can separate them I think it is to everyone's advantage. It clarifies the decision. It clarifies the thinking. It is extremely difficult to do it in many of the difficult cases.

Senator NUNN. It doesn't seem to me it would be so difficult if there really is a dual role in Defense. We have heard that the De-

Lauer shop basically makes the technical assessment which goes to the Policy shop. The Policy shop plugs in the policy, and then represents the Defense view to the agencies. I mean the information on the technical side comes in separately therefore, it seems to me it shouldn't be that difficult to ensure that whatever Defense's final position is that there is a way you can go back and isolate the technical side before that final DOD decision was made.

I am not suggesting that policy doesn't play a role here. But I am suggesting if I were the President of the United States and it got all the way to my desk, I would want to know what technical assessment was, separate from what somebody's policy judgment was, thereby assuming the President and NSC themselves would feel capable of making the policy decisions, but probably not technical decisions.

Mr. McFADDEN. That is right, absolutely. I agree with you. The ultimate decision, however, tends to be a combination of all of these dimensions. I think the process benefits greatly if you can separate them out and say this is the political side and the philosophical side and this is the technical side.

Senator NUNN. Why don't you at least within the Department of Defense?

Mr. McFADDEN. I think you should.

Senator NUNN. Why couldn't a product come out of the Department of Defense on decisions as to the technical assessment, this was the policy assessment, this is the final decision?

Mr. McFADDEN. I think it should. I think that is the great challenge. I think one of the problems industry has faced is they give technical input on a decision and then the assertion is made it has been consulted fully on an export control decision. It has been consulted in that case on the technical side of it. It has not been consulted on the foreign availability side of it. It may not have been consulted on the feasibility of imposing these kinds of controls or the advisability or any number of other dimensions of the question.

Senator NUNN. But if the decision in Defense is merged and you can't tell the difference from the technical and the policy, I don't see how anybody outside of Defense at that point begins to debate it rationally.

Mr. McFADDEN. That is right. It is a very difficult problem for industry.

Senator NUNN. That is what I have been trying to get at today. Mr. Lyon, would you comment on it? Would it be helpful to have a clear delineation in Defense decisionmaking as to what was technical and what was policy?

Mr. LYON. I have a problem with what we mean by what is technical. The people I know in——

Senator NUNN. What is technical is what comes out of DeLauer's shop, for lack of a better definition, supposedly.

Mr. LYON. Let me say, if I can go back to some of the cases I was involved in in the past, there is a technical description of the product, of all of those impacts on U.S. capability usually. There is another element of that, which is, does it provide the Soviet or the Communist bloc countries with the military capability. That is not something that comes out of a semiconductor expert's head. That comes out of the intelligence community. In a sense we are talking West-West trade right now in most of these cases and the impact.

There is a third element of judgment that is involved with the security aspects. Is that a reliable organization? Do we have any evidence that that person is a friendly organization?

Senator NUNN. That latter point clearly is not technical in the sense that I wouldn't expect a Research and Engineering Department of the Department of Defense to get into whether it was a dummy corporation or a cover operation at all. But I would expect that Department to be able to tell us the effect of that weapons system on the Soviet Union's military capability.

I consider that clearly techncial assessment.

Mr. LYON. So that would fall into the policy domain then of what you are talking about?

Senator NUNN. No. The third point would fall in the policy. I would expect Policy to plug in. I don't know that this is the way it is, but it seems to me the second, the technical capability assessment coming out of Research and Engineering, should include both the assessment of the weapon itself or the product itself and also the effect of that on the Soviet's capability.

Mr. LYON. And as an example there, Senator, many of the Soviet needs are not cutting edge technology. They have a much different level of technological utilization and progress in that utilization than we do. So the question is sometimes their need for a specific item that they are searching for and what they are trying to acquire is not necessarily very sophisticated.

Senator NUNN. Let's turn it around. Where would you draw the line?

Mr. LYON. I am just trying to point out the interface. I agree with your conclusion. Foreign availability determinations were not arbitrarily added: That would be on the wrong side of your line.

Senator NUNN. Why should foreign availability be? You are getting outside of the Defense Department now. I mean I would think that was not basically a Defense decision.

Mr. LYON. There is one element of it, though. It is Soviet indigenous capability, which is a foreign availability determination.

Senator NUNN. That would have to come from the intelligence side.

Mr. LYON. Right. So you start sorting these different functions out. But there is a technical issue. My problem is if you say the technical judgments would be here, and the policy judgments would be there, without understanding that there are say technical judgments involved in the Soviet indigenous capability, you run into a problem. I am agreeing with outlining, clarifying, and showing the audit trail. I have no problem with that. I just want to caution against——

Senator NUNN. Are you saying there is some overlap in that there is not going to be absolute lines drawn?

Mr. LYON. Yes, sir. So the point is you need to have a definition of all of the relevant factors, somehow sorted out, and an audit trail worked back as to whose judgment was involved.

Senator NUNN. It seems to me that reasonable people in this area sitting around a table could make these definitions and sort this out so it would be an orderly trail as to how decisions are made.

Mr. LYON. Sir, when everybody around that table wants to find a way to approve the license or approve the initiative or make it go, we find a way. When everybody around the table wants to stop it, we find a way. When there is a mixed view of those folks around the table, then we use all kinds of arguments, depending on our area of expertise, to argue for or against it. That is the problem, that people can use technical arguments for political purposes and vice versa. That is the game, the kind of debate that goes on. You have to say that this is going to go on, but have some test of credibility to the way those arguments are presented and defended.

Let me give you one example that may be close and germane to this issue. The issue raised earlier this morning was that technology transfer is not controlled. That is a statement that says the Government doesn't have prior review of the control of technology. But technology is controlled from my point of view because I have to have a written insurance agreement in place which is self administered for free world trade for any technology that is in support of a product in the commodity control list.

Furthermore, if I have reason to believe that that consignee is going to divert, I cannot ship to him under that license, and I know that, and I work with that in the private sector.

The Government says it is uncontrolled because they are not involved in how I police that and how I put that process together. But that is called GTDR, General Technical Data License. If I don't have the written insurance agreement in place, then I do need an individually validated license from the Commerce Department; or, if that transfer is to a bloc nation, I have to have a license.

Now here is a case of communications problems where someone says we don't control the technology and he is right and I say we do control the technology and I am right. And you sit there and say who is right? And in fact the issue has been working and it is in place.

Now, as an example, I read in the earlier testimony in these hearings about there is a list of 4,300 people that the Treasury Department and Commerce think are unreliable. I don't have access to that list. The only list that I can find is 186 folks in the Denial Order List. Admiral Burkholder, who is in the Defense Intelligence Community, has published an article in the Signal magazine saying there are over 330 chartered purchasing agents for the Eastern bloc in the free world. Well, if there are 330 of those and there is a list of 4,300, how come I don't have that list? I mean how come the industry can't communicate on those issues so that in our free world exercise we know where the front organizations are and the problems are and people we can talk to? We don't know that. We just have to presume that if a person passes our credit check, we can then go in for a consignee statement on a distribution license, and hope that the Government in giving us their clean bill of health does that check.

Senator NUNN. You are saying those lists should be made available to the industry?

Mr. LYON. I am not sure they can be because there are a lot of problems there with treating with persons——

Mr. **McFadden**. Due process.

Mr. **Lyon**. Due process.

Senator **Nunn**. You have classification sources and methods problems?

Mr. **Lyon**. But there ought to be some mechanism by which we can communicate on such bases as that. That is the kind of issue when you start talking about the process of approval of licenses and sorting out technical judgments and policy judgments that I don't see built in. That is the kind of issue that leads me to say I don't see the institutional memory.

Senator **Nunn**. I see your problems, but I am not clear about your solutions. I don't know what we do about that.

Mr. **Lyon**. You put the finger on the problem in the last report that staff prepared about better communications and also a good working relationship between industry and government. We have a lot of communication but not a lot of quality in communications.

Senator **Nunn**. Is that the fault of the Commerce Department, the Defense Department, the individuals in it, or industry?

Mr. **Lyon**. The facts will show, and I don't think there is an individual in the system that doesn't want that kind of communication. But the tempo, timing or the structure of debate we have had today has not brought that about.

Senator **Nunn**. Again, what can be done about it?

Mr. **Lyon**. Well, from industry's point of view the start was the coalition. To start buidling up good working relationships and a problem-solving attitude. I am not speaking for the coalition, but that is what I understood the whole process was.

Senator **Nunn**. You are saying the coalition is a first step and the coalition itself and its role has to evolve. Is that what you are saying?

Mr. **Lyon**. Yes.

Senator **Nunn**. Do you both agree with that?

Mr. **McFadden**. Yes, I agree with that. I think the coalition has come up with some solutions to this problem. We do not have all of the solutions by any means, but we have made some suggestions. One would go to the licensing system. We think there ought to be a licensing system that is compatible with the way we do business. That is very important, because any enforcement of our overall export controls has to depend on the cooperation and support of the U.S. industry. It cannot work otherwise. It is just physically impossible to control in any careful way all of our international activity. So you have to have a system of control that reflects how U.S. business does operate.

Second, it seems to us the system ought to take advantage of the controls that industry already has in place. It ought to build on what is there. And industry does have a lot in place to handle these kinds of concerns. They cannot do it all themselves, but the licensing mechanism ought to take advantage of what we have.

Third, we think the whole regulatory mechanism ought to focus on systems of control rather than the individual transaction. If you are looking at a company system, you can make judgments about consignees. You have more time and a greater ability to look at how the operation actually operates and investigate it, approve it, and then let it go. But don't get lost in the overwhelming number of individual transactions. You don't get any more insight that way and you get lost.

Senator NUNN. Are you saying government is about to go to this transaction by transaction approach with the new regulations that have been proposed?

Mr. McFADDEN. We are concerned about that.

Senator NUNN. You are saying the Government is already doing that?

Mr. McFADDEN. We think they are already doing too much of it. We would like to see the focus much more restricted on those items that are critical and give us more operating flexibility without reducing control. We think the trends in the future, as we see them now, are very disturbing in that regard.

I think the final area that we would endorse and urge is multilateral controls. We are looking for an even-handed system. And as long as we are on an even footing with our commercial competitors, we have no objection to export controls particularly as they relate to depriving our potential adversaries of sensitive technology. We support that notion. And I think one of our concerns is that there has not been sufficient attention devoted to the operational details of this whole system. It is fundamentally the same system we have had since World War II. That is why the coalition was formed, to say the stakes are too high now. We have to participate somehow and streamline this system, improve it so it gives both better control and more flexibility to operate.

Senator NUNN. When was this coalition formed?

Mr. McFADDEN. January is my recollection.

Senator NUNN. Of this year?

Mr. McFADDEN. Of this year.

Senator NUNN. Do you have small business representation on there?

Mr. McFADDEN. Absolutely.

Senator NUNN. Who would represent the small business or medium-sized business view in the coalition?

Mr. McFADDEN. There are over 3,000 companies in this coalition. As you can imagine, many of our most innovative and active high technology firms are small. The American Electronics Association has 2,700 members, or something of that nature. The vast majority of them are relatively small business. Semiconductor equipment manufacturers are typically $20 million operations. But they are on the leading edge of technology development worldwide. They are small companies, but they are international companies. You cannot be in the high technology business even as a small company without being international these days.

So we think we have a prospect of developing some communication. We think there needs to be a lot more. We don't want to suggest that the Government is abandoning any prospect of communication. But I think as the distribution license regulations indicate improvement is needed. Those were not final regulations, but they were developed, the proposed regulations, without any real consultation with industry, despite all sorts of industry consultation available. That affected the most vital license applications for all of the high technology industry. They come out in elaborate form, with a 30-day comment period. Industry is concerned about that.

In the past, a 30-day comment period has been a very ineffective way to deal with major issues.

Now, that is not to say that we have been ignored in the meantime. Over 250 comments have been filed. I think the Commerce Department has extended the period and tried to engage in a dialog. We support that.

Senator NUNN. Mr. Lyon, you mentioned accountability in the system and the lack of a accountability in the system. Would you be a little bit more specific on that point, particularly in regard to how we get more accountability from the Government?

Mr. LYON. I think part of it is in the resolution of these policy decisions and these debates so we know where the argument came from and have a chance to talk to the people and develop the rational behind that statement.

Senator NUNN. I suppose that is exactly the point I am trying to make, so that you can have a track record there that would reveal where the different decisions came from.

Mr. LYON. Let me give you an example, because I have a hard time dealing with broad concepts in some of these areas. But when the People's Republic of China decided to open up the Pearl River estuary and South China Sea for oil exploration and seismic equipment that is used there has an ASW overtone, which is of concern to the Defense Department, the U.S. firms individually and somewhat collectively came to the Defense Department and said we have to have standard guidelines for competing for these requests for proposals that the Chinese will be putting out.

And each of us gets a different answer on a nuance as we start trying to find out how our particular set of equipment would be dealt with.

The process worked, and after a few weeks of meetings with industry experts, technical experts, and government experts, the guidelines were reached. They were reached in time so that people could go bid on these offerings in a comparable fashion. Everyone knew why it was there. They knew the rational behind it.

Senator NUNN. Did that just happen or did you know about it?

Mr. LYON. It probably was because some bright person realized it and made it happen.

Senator NUNN. If we could legislate bright people, we would do it. We have never been able to codify that.

Mr. LYON. I would like to make a comment implicit in what has been going on in here between the two of us. I think there is a much greater willingness of industry to comply not only with the letter of the law but the spirit of the law to try and find solutions to accomplish the objectives that are laid out in the broad policy intent, and for some reason we don't have good fora to present our case. The fora that we have to present our case are adversarial, usually trying to get a license approved, to rail against some kind of regulatory proposal, and we are forced to present or views in reaction to something. Therefore, our very legitimate arguments are sometimes discredited as nothing more than the arm-waving that is expected from industry. I was absolutely overwhelmed, when I went to the industry side, that at the very core of industry how much concern there was that we get a solution to this problem, that we properly balance and we get on with it. Yet we have not found a good fora to make that case.

Senator NUNN. It seems to me one of the real challenges here is to separate the industry input in the general sense, procedural sense, and even substantive sense, from the individual sale of the individual item.

Mr. LYON. Yes, sir.

Senator NUNN. For instance, if you were part of this industry group, or Mr. McFadden were part of the industry group, and you were sitting on some type of governmental industry interagency council where you really have the input at the interagency level, and there was a matter which came up relating to the sale of a piece of equipment from Texas Instruments. Now, it seems to me everybody around that table has to know immediately that that is involving you and that there is some conflict, or at least some bias on that item.

And I think one of the challenges here is to separate the general advice of industry from the specific advice of industry on a case by case basis. I am not saying Texas Instruments shouldn't have input on that item to Government, but I don't think you ought to have an input representing all of industry. I think your input ought to be representing your own company with that item rather than in the generic sense. It seems to me that is a real challenge in trying to devise a way to improve the process, as both of you have advocated, and yet have everybody aware that there is a difference between item by item interest and a general procedure.

Mr. LYON. There are three dimensions of export control policy that I find intriguing. One is what you would call the policy level. One is what I would call the listing level. Then there is a licensing level. One person they will never get involved in advising on any other company's license or taking a judgment relating to their specific case, just because I can't do that. It wouldn't work. But in the listing and in the policy level, we have a tremendous input to make, and we need to be able to gather the skills together that can make that contribution and find fora and the working relationships to grow and improve our trust and working relationship with the government. That has been missing.

Mr. MCFADDEN. I think you have highlighted a very important point that applies not only to industry but to government as well. I would be very uncomfortable, I think reasonably so, if industry personnel were called upon to make individual judgments as well as policy and broad guidelines. We have the same concern, though, when we see government policymakers doing that, making the policy and than they also are right down on the individual decision level. There isn't much in the way of procedural safeguard in this whole area, administrative or otherwise.

Senator NUNN. Dr. DeLauer testified that implementation of the policy was supposed to be in his shop in defense. We obviously don't have a joining, we have not yet got a joining of the minds on the Defense Department itself, let alone——

Mr. MCFADDEN. Let alone the rest of them. I mean that has been a contention throughout the export control area. And in most other areas of administrative law there is a very discrete outbreak. You try to separate the administrative rulemaking process from the case by case determinations, and you have different people doing them. You have a separate appeal process and so forth.

I am not suggesting that, but I am suggesting there is a problem when you have policymakers at the highest level engaged in individual licenses, foreign availability or licensing decisions and otherwise.

Senator NUNN. Is that happening in all of the Departments or any one in particular?

Mr. McFADDEN. I don't know. I wouldn't begin to be an authoritative on that. It is an industry concern that it may happen. As we see a great deal of controversy, if not turmoil in the government organizations in this area, that is a matter that we are worried about—how is that going to ultimately be dispatched in licensing decisions and in policy decisions.

Senator NUNN. Well, I appreciate both of you being here and your cooperation. I hope it would be on a continuing basis. We will be over the next few weeks making some assessments of what we have heard in these hearings, hopefully coming up with some suggestions and recommendations. We would welcome your continued input in that process.

Do either of you have any other suggestions, anything you would like to add that has not been elicited by the questions?

Mr. LYON. Just one point I think I would like to raise in terms of the importance of Cocom. When we discuss Cocom, we normally are thinking of getting allies to agree and have some commensurate controls over their sources of the same technology that the United States can manufacture. There is another aspect of Cocom that is crucial, and that is we have to have rules of fair play for trade within Cocom on high tech goods. This gets to the issue of reexport controls and their burden on U.S. industry.

It seems to me there is a much more enlightened process that could be achieved within the Cocom framework that would not compromise national security objectives but would enhance our ability to compete in the largest high tech markets in the world. Right now there is a disparity between the way the U.S. firm competes in that marketplace and our Japanese, French, and German competitors. And that to me is probably the most crucial aspect of a good, solid, effective, improved Cocom which is getting those ground rules for trade within Cocom commensurate and comparable.

Senator NUNN. You are saying they are not now?

Mr. LYON. They are not.

Senator NUNN. Give us some reasons.

Mr. LYON. If I have to pick the three most crucial, first would be the differences in individual validated licenses processing delays. These are for licenses for free world shipments.

Senator NUNN. You are saying it takes longer here than over there?

Mr. LYON. I can get licenses through the system with Japan in less than 2½ days. I have to get two licenses because I have to get a reexport control license for the United States or use the distribution license. It is roughly a week in the Cocom countries and it is roughly 6 weeks to 2 months here.

Senator Nunn. You are saying this is a competitive disadvantage?

Mr. Lyon. Yes, sir. There are a number of stories and scenarios you can draw from that. The second thing is we have reexport criteria on our products. In other words, when I sell, if you were a purchaser in Germany, you would get product from me but there would be a prohibition on reexport of that product without getting further approval by the U.S. Government. My Japanese competitor doesn't have that. He only has control on the first shipment.

Senator Nunn. Is that existing or is that proposed?

Mr. Lyon. That is existing. And a third is the commingling concept. If you are a purchaser over there and by some technology of product from me and embed it in your product, your whole product picks up U.S. reexport controls. There is a lot of debate about when U.S. identity stops. Essentially I have to work on the theory if you commingle my technology with your technology, that products picks up U.S. reexport controls in total.

These things then set us apart. If everything else is equal, we are not competitive to that particular purchaser. That is within Cocom and within West-West trade.

Senator Nunn. Is Cocom addressing that or those issues?

Mr. Lyon. I am not privy to any such discussions. I just don't know. They may be going on. They may not.

Senator Nunn. Mr. McFadden?

Mr. McFadden. Senator, if I could build on that, I would like to suggest to you export controls are enormously important to our high-technology industry. And the stakes are very high. Congress has recently become actively engaged in this area in the legislative area and dealt with a number of the difficult and central problems.

A number of the things we are talking about here, and Mr. Lyons has just emphasized them, are operations problems. They are low level, nitty-gritty problems of how we do business. Those problems need great attention because they are going to have a very substantial impact on our whole industry and our national security if they are not carefully dealt with and resolved.

Senator Nunn. How would you categorize the three just mentioned by Mr. Lyon?

Mr. McFadden. Those are virtually all operational. It is how the actual control system works and affects companies in individual cases, how effective it is in terms of actually controlling something, what are the reexport problems, how does it bear on enforcement, how does it bear on the way you can respond to customers and your competitors can respond. Those are very important matters, more so now than ever before.

I would just urge that the Congress and you subcommittee to continue to explore this area, because it does have enormous implications for our industry and our national security.

Senator Nunn. Are you saying these problems would be solved if there was a 6-week delay in Japan as well as here?

Mr. McFadden. Well, it would certainly relieve one part of the problem.

Senator Nunn. Are we supposed to get more efficient or get the Japanese to be less efficient? Or is it efficiency? Is our Government addressing things in this process that the Japanese aren't looking at at all?

Mr. LYON. Senator, I think there is another technical issue there.

Senator NUNN. Is there a distinction between diligence or deficiency in this delay?

Mr. LYON. If these delays were on items on a proven strategic and areas of serious concern, it would be different. But in many of these areas it is just the volume shipments of the total product our company manufactures. I have seen licenses for spare parts that are five pages long on technologies that are obsolete by today's definition.

Senator NUNN. What are the Japanese doing differently to make that process move so much faster?

Mr. LYON. You almost turn in your bill of shipment to the government and it is stamped approved as a license. This is not to negate the preparation of all the paperwork needed for the shipment.

Senator NUNN. Are they being derelict in export control?

Mr. LYON. No, sir. They are following regulations to the letter. In fact, they are sometimes a little too much to the letter in their accountability scheme of making sure every little entry is exactly right.

Senator NUNN. I am not saying about the low level of people whether they are following the policy of the government. I am saying is the policy of the government basically lax in terms of controlling import and export? So you think the Japanese Government is basicially exercising due care in protecting Western security in the control of export?

Mr. LYON. I can't judge from their perspective. I think that they——

Senator NUNN. I am not saying from their perspective. I am saying from ours.

Mr. LYON. I think on matters of truly national strategic importance the Japanese have a good system and are concerned.

Senator NUNN. Mr. McFadden, do you have a comment on that?

Mr. MCFADDEN. I have no firsthand ability to comment on how well the Japanese enforce or adhere to export controls.

Senator NUNN. In your statement, you indicated that our Government controls products in one case, I guess, because they contained an embedded microprocessor. Is that something that gives you concern? Do you want to elaborate on that?

Mr. MCFADDEN. Yes, that has been a problem for the United States for some time. It illustrates several of the difficulties we talked about this morning. The U.S. Government on a unilateral basis will control certain instruments, scientific instruments, merely because they have an embedded microprocessing. Other countries do not do that. The rational is rather straightforward. It is the same reason you don't control a washing machine because it has a microprocessor in it. You control the end item but not a component of it. We believe that is a sound rational in the case where you have a very expensive instrument and a very inexperience particular piece or component in it.

Senator NUNN. What if the microprocessor itself in that washing machine is of critical importance?

Mr. McFADDEN. Well, in these instances that industry has had problems, it has been where there has been a very large dichotomy in the nature of the machine and the particular microprocessor. It has also been a situation where the microprocessor is dedicated to a certain function. It cannot be reprogrammed. It is a situation where no one is going to go out and buy or it is unreasonable to think anyone is going to go out and buy a huge scientific instrument just to get a microprocessor that is readily available elsewhere. So on that basis we believe there are some 200 products that there is a general consensus within the Government that they ought to be decontrolled and at various times have been recommended for decontrol by Defense and Commerce.

Senator NUNN. Why aren't they?

Mr. McFADDEN. That is a question that I cannot answer. We do not know the answer to that. We are impatient and concerned about it. It is not a matter of ill will. It is just I think an operational problem within the Government. Again, it reflects some of the concerns we have expressed.

Senator NUNN. I want to again thank both of you for appearing here. Do you have any other comments? Do you think we have covered most of your observations?

Mr. McFADDEN. Yes.

Senator NUNN. We have a list of 20 exhibits that will go in the record without objection.

[The documents referred to were marked as Exhibits 1 through 20 as indicated on pages 4 and 5.]

Senator NUNN. Thank you both for appearing and we again welcome your continuous input.

[Member of the subcommittee present at the conclusion of the hearing, Senator Nunn.]

[Whereupon, at 12:03 p.m. the hearing of the subcommittee was adjourned.]

CLOSING REMARKS OF SENATOR WILLIAM V. ROTH, JR.

As we close these hearings I want to compliment Senator Nunn for the job he has done over the course of the past two weeks.

I am, of course, committed to encouraging United States trade in all sectors. But as the testimony of the witnesses from the Defense and Treasury Departments has shown, the Soviet Bloc is constantly working to acquire the best technology the West has developed and it is easy to see why a firm stance must be taken in CoCOM.

Since I have not been able to attend all the sessions, I want to leave the Record open for a period of time to allow me and other Members to submit certain questions to witnesses who have appeared.

I look forward to working with Senator Nunn on this difficult issue throughout the year.

APPENDIX

STATEMENT OF

WILLIAM A. ROOT

TO

U. S. SENATE PERMANENT SUBCOMMITTEE ON INVESTIGATIONS

AT HEARINGS ON

TRANSFER OF TECHNOLOGY

APRIL 2, 1984

"Allied Cooperation in Export Controls"

Thank you for inviting me to testify concerning the efficiency and effectiveness of United States efforts to work with the NATO Allies and Japan in setting and enforcing export controls. I devoted a major portion of my career in the State Department to this subject. Much of that work consisted of seeking means to strengthen the coordination of strategic export controls through the Coordinating Committee, or COCOM, an international organization in which the NATO nations, less Iceland and Spain, plus Japan are members. I feel very keenly that we must work closely with our Allies to devise effective export controls which will help to protect our common security. Indeed, I felt so keenly that I resigned from the State Department last September rather than pursue courses of action which I believed were weakening controls.

I had twelve years experience in the State Department's Office of East West Trade. During that time I headed U. S. Government teams conducting negotiations with our COCOM Allies concerning what items should be on the security export control list. I also supervised inter-agency efforts to involve our Allies in more effective enforcement of agreed controls. I was at the working level. I did not set policy. I operated under policy instructions from more senior Government officials. It was the job of the working level staffs to carry out policy.

The List Review teams and the enforcement working group included military, intelligence, technical, and regulatory experts. The enforcement group also included persons skilled in investigative and prosecuting work. I am none of these. I relied on others for advice on these matters. My job was to elicit the best information available to support U. S. policy and then to find means to achieve international agreement to further that policy.

My recommendations for carrying out the policy of strengthening controls are in no way related to partisanship, personalities, or the policy itself.

Senator Nunn said on May 4, 1982:

> This is a bipartisan thing and this is not aimed at any particular administration. This problem transcends any administration or any leadership.

His words are applicable to my analyses of both weaknesses and strengths in our efforts to control exports. All administrations since 1948, including the present administration, have not only engaged in some counter-productive activities but have also conducted productive negotiations in important areas.

My suggestions for improvement should not be construed as criticism of any personalities. I do not question the sincerity of any person's views and recognize that there can be reasonable differences of opinion as to what is in the national interest.

My proposals involve no policy changes. I am in no way protesting the policy of strengthening controls. On the contrary, I am seeking ways to avoid actions which, although intended to strengthen controls, have the opposite effect.

The issue which I urge be given immediate attention is not the policy but is rather the process of putting the policy into effect. We should ask ourselves: What negotiating process works? What negotiating process does not work?

Senator Roth stated the main point better than I can when he said, at the May 4, 1982, opening of hearings before this Subcommittee:

> Much of the technology developed here in the United States is also being developed by other Western nations....We must, therefore, work together with our friendly neighbors to establish carefully conceived important programs aimed at specific types of technology. Clearly, effectiveness depends on multilateral enforcement.

Multilateral, rather than unilateral, controls are essential. The United States is not a unique supplier of most items. Even when we are a unique supplier, we need international cooperation in order to enforce our controls on reexports of U. S.-origin items, on the foreign-made product of our technology, and on the exports of non-U. S.-origin items by subsidiaries of U. S. companies. There is no need to debate whether to seek multilateral support. There is a broad consensus on the need for multilateral controls. But there are sharp differences of view as to how to achieve this objective.

In seeking the best answer to how to obtain multilateral support we can learn from over 30 years of experience in COCOM. This history is summarized in Attachment 1 to this statement. Two common threads emerge:

First - Careful and deliberate give and take negotiations have resulted in strengthened COCOM controls on specific, well-defined items.

Our Allies have made valuable contributions to the process. Although they wish to maximize non-strategic exports, they have not used their veto power in COCOM to prevent strengthening strategic export controls. This is quite remarkable. They have gone along with strengthening even though we have consistently used our veto to prevent any major liberalizations since the 1960's. In other words, in the normal give and take of negotiations in COCOM, we have not had to settle for the lowest common denominator of Allied views. They have welcomed our leadership. They have not followed us blindly; but we should be grateful for that. Their constructive probing has resulted in controls which are better justified and more understandable by administrators and by exporters than were our original proposals.

Second - U. S. efforts to strengthen controls by exerting pressure on our Allies have been ineffective, especially in the past six years.

Such failures have occurred either when our strategic justifications were not clear or when we have rigidly adhered to our original proposals. Our security arguments were mixed with foreign policy considerations in failed efforts to deny a computer for TASS after the trial of the dissident Shcharansky in 1978; grain and equipment and technology for a steel mill and for an aluminum smelter after the Soviet invasion of Afghanistan; and gas pipeline items after the imposition of martial law in Poland. COCOM agreements to strengthen controls on computers and on oil and gas equipment have eluded us because we have been slow to take into account constructive Allied criticism of our proposals.

We can do better. In 1983 we missed opportunities to strengthen COCOM controls both on computers and on oil and gas equipment. We were, in fact, about to take actions which would make such strengthening more difficult, rather than less difficult, to achieve. I perceived that, in my position at the working level in the State Department, I could do nothing to prevent this from happening. I did not want to be part of counter-productive activity. Accordingly, I resigned from the State Department in September. My open letter to the President and to the Congress, which elaborates on my reasons for resigning, is at Attachment 2.

What are the characteristics of counter-productive negotiating activity? What are the characteristics of productive negotiating activity? I believe that efforts to persuade our Allies are counter-productive, whereas efforts to elicit Allied cooperation are productive.

The "persuasion" school observes that the United States is the dominant member within the Western Alliance. We are not only the strongest militarily but we also devote more technical and intelligence resources to the analysis of what should be controlled and why. The "persuasion" school concludes from these facts that other COCOM members should accept our views on strategic export controls. Doubts which others have concerning the wisdom of U. S. proposals are, according to this line of reasoning, probably based largely on commercial considerations. Since the United States bears the largest defense burden, it is argued that our Allies should accept our judgments on what commercial sacrifices are necessary for Western security.

On the other hand, the "cooperation" school notes that the Allies have been willing partners in COCOM for over 30 years. They need no persuasion from us on this fundamental point. The Berlin blockade persuaded them of the need to control strategic exports 35 years ago and subsequent Soviet abhorrent actions have reinforced their commitment. It is true that they have been unwilling to use export controls for political purposes and that they have opposed economic warfare. Moreover, they, like we, wish to take advantage of commercial opportunities unless there is a clear strategic case for controls. But, for over three decades, they have consistently supported strategic controls. Moreover, they have contributed to the control process both procedurally and substantively. Procedurally, they have insisted on maintaining the COCOM rule of unanimity, which gives the United States a veto over any relaxation of the list and a veto over any case proposed as an exception from the agreed embargo. Substantively, they have provided much relevant technical and intelligence information and, perhaps even more importantly, have insisted that proposals be refined to remove ambiguities. It is certainly in the U. S. interest to revise U. S. proposals so that administrators as well as exporters can understand as clearly as possible what we wish to control.

Intellectually, there is some validity to both the "persuasion" and the "cooperation" arguments. From a pragmatic point of view, however, "persuasion" has not worked whereas "cooperation" has worked. For example, we could have had strengthened controls on computers and on oil and gas items by now if we had given a priority to give and take negotiations rather than to efforts simply to persuade our Allies to adopt our original proposals.

Nevertheless, the "persuasion" school maintains that we need tougher controls than can be negotiated multilaterally on a cooperative basis. The members of this school hope that proceeding unilaterally will persuade our Allies to join us, especially if we find other ways to pressure or entice them. The cost of lost trade is presumed to be low, because Western trade with the East is relatively small. The cost of a compromised weapons system can be high. It is better to be safe than to be sorry when our security is at stake.

However, in the past, whenever we have followed such advice in any but marginal ways, we have lost much and gained nothing. It is certainly not apparent why we should expect future experiences to be any different.

The only unilateral security controls (other than those on munitions and on nuclear items) which have not followed the pattern of losses and no benefits have been those for which there were good prospects for COCOM agreement in the near future because the details of the U. S. controls took into account prior extensive COCOM negotiations. Examples are silicon and array transform processors.

In other cases, we have lost, and are continuing to lose, in political, economic, and security terms and with no compensating benefits.

We have lost politically, both because of the loss of our perceived strength following open dissension within the Alliance and because of the gain in Soviet perceived strength when targetted Soviet activity proceeds in spite of our controls. Both of these adverse phenomena occurred from 1978 to 1982 in dramatic forms -- in the TASS computer, grain, steel mill, aluminum smelter, and pipeline cases. The political losses continue because of the appearance of deadlock within COCOM, especially on computer controls.

We have lost economically, not only in decreased U. S. exports to the East but, more significantly, in lost orders to customers in other Western countries wishing to avoid the uncertainties of our controls on exports and reexports. Unilateral export controls have been a major contributing factor to substantial decreases in the U. S. share of Western markets for items such as electronic components.

We have lost in terms of our security because of long delays in strengthening COCOM controls.

There have been no compensating benefits, because the unilateral controls have been ineffective and the tactics have delayed rather than expedited the imposition of multilateral controls.

Critics of negotiated compromises insist that Allied governments are so influenced by commercial considerations that we must go to extraordinary lengths to see to it that strategic considerations which we believe must be overriding do ultimately prevail. Paramount strategic considerations should, of course, prevail. We are fortunate to have Allies who, in an organized way in COCOM, respond to such strategic justifications for controls. They are willing to bear commercial costs in the equitable manner made possible by coordination of controls in COCOM. We must go to extraordinary lengths to justify, clarify, and particularize our proposals in order to convince our Allies (and ourselves) of the merit of these proposals. But when we go to extraordinary lengths in the form of sanctions on our Allies for not agreeing with us, something has gone badly awry.

The formula for improvement is to work diligently with our Allies to strengthen and refine controls on militarily critical items.

Various other formulae for improving COCOM, proposed in connection with renewal of the Export Administration Act, miss the mark. It would be counter-productive to negotiate with our Allies with a view towards reaching agreements:

(1) to put COCOM on a treaty basis;

(2) to minimize the approval of exceptions from the COCOM embargo; or

(3) to provide "sufficient" funding for COCOM and to upgrade its professional staff.

Reasons for not embarking on negotiations with these objectives follow.

(1) In some member countries, parliamentary debate concerning a COCOM treaty would jeopardize continuation of present less formal cooperating arrangements.

(2) A policy to minimize the number of COCOM exception cases would make it more difficult to add new items to the list, because it is impossible to anticipate all exceptional circumstances when defining a new technology for control purposes. A policy to minimize exceptions would also be inconsistent with U. S. desires to treat exports to China more favorably than exports to the USSR.

(3) COCOM has no need for a large budget. COCOM has adequate professional staff to support its meetings. COCOM cannot effectively use persons skilled in military, intelligence, regulatory, and technological developments, because the necessary coordination of national work in these areas would be impeded by the largely irrelevant ideas of an independent international staff. Moving COCOM to fancier quarters would risk complacency from the illusion that effective cooperation is somehow a function of appearances. It would also unnecessarily stimulate opposition from those members whose cooperation is dependent upon the organization keeping a low profile.

In brief, there is no inherent flaw in the Committee's organizational structure to be overcome through negotiations to strengthen it in a generic way.

However, there is an inherent flaw in the existing U. S. Export Administration Act (EAA) which should be removed in order to strengthen COCOM.

Section 10(g) of the EAA of 1979 provides that, if the President overrides a Defense objection to an export, he must so report to the Congress. The President has not overruled Defense in the past, nor is he likely to do so in the future. The required report to the Congress would indicate that the Commander-in-Chief was not master in his own house. The natural result is that Defense officials perceive that the views of other agencies and of other

Governments are largely irrelevant. But Allied views must be taken into account in order to further our common security objectives. Their suggestions improve the controls. If we do not listen to them, we unnecessarily end up with ineffective unilateral controls.

I urge the repeal of Section 10(g). The Defense view as to what is militarily critical is more important than the view of any other agency. But the Section 10(g) formalization of the predominant role of Defense is self-defeating. Only by a less rigid U. S. approach to COCOM negotiations can the substance of Defense views on the control of militarily critical exports effectively realized.

The Senate bill, S. 979, would, unwisely, not only retain Section 10(g) but also expand its coverage to West-West as well as to West-East cases. The formula "where ... there is a clear risk of diversion of militarily critical goods or technology to proscribed destinations" would include any export to any destination of any such item. There is no need for Defense review of individual cases for other Western destinations. What is needed is a clear understanding as to which items are sufficiently critical to warrant use of the COCOM IC/DV system or of the U. S. form in which the end-user signs an assurance against unauthorized reexport.

U. S. efforts to work with our Allies would be strengthened by using diplomatic channels for overseas investigations. Both Customs and Commerce have been seeking enhanced roles for themselves in the investigation overseas of alleged export control violations. Most governments in other COCOM member countries are extremely sensitive about such U. S. extraterritorial investigations. Those governments have, however, been sensitized to the need to improve the enforcement of controls in their countries. When we present solid evidence of violations, they do take remedial action. When we fail to take into account their sensitivity to our extraterritorial investigations, we jeopardize cooperation which we would otherwise enjoy.

In summary, the way to strengthen COCOM is to use it as it was intended to be used. Effectiveness depends upon working with our Allies in a give and take cooperation. Ineffectiveness results when we use COCOM as a forum to try to persuade the Allies that we have all the answers. There is no panacea. Let's not delude ourselves that reorganizing COCOM or throwing money at it will solve our problems. What is needed is hard work to identify, justify, and carefully and precisely define those militarily critical items which should be controlled and to carefully and thoroughly compile evidence of suspected violations. Our Allies make this work easier when we listen to them. We make it harder when we don't listen to them. Repeated lessons from history are unmistakable on this point.

The clearest signal we could give that we have learned from this experience would be the repeal of Section 10(g) of the Export Administration Act. Formalizing the necessarily central role of Defense in this way has had the contrary effect of preventing the realization of Defense's objective (and of the U. S. and the COCOM objective) of stronger export controls, by discouraging effective negotiations in COCOM.

Attachments:

#1 History of COCOM Export Controls

#2 Open Letter to the President and to the Congress

#3 Chronology of Events Related to Resignation of William A. Root

#4 Response to Public Criticism of Root Resignation

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William A. Root

Attachment 1

History of COCOM Export Controls

Summary

In the 1950's initially broad controls were substantially liberalized. In the 1960's and 1970's a few significant items were added to the COCOM list and a few obsolete items were dropped. Starting in 1978 U.S. unilateralism and U.S. inflexibility in negotiations increasingly affected Allied cooperation adversely.

1950's

In the early 1950's the Korean War provided the basis for broad COCOM controls on exports to the USSR and its Warsaw Pact Allies and even broader controls on exports to China.

In the mid and late 1950's, after the Korean armistice, the Allies believed strongly that substantial liberalization was necessary. The COCOM List Reviews of 1954 and 1958 removed many items from the lists. A United Kingdom resolve to remove the China differential, even if COCOM did not, was soon followed by COCOM agreement in 1957 to discontinue the separate, longer COCOM China list. Frequent communications between heads of state, in particular between Churchill and Eisenhower, preceded U. S. concurrence with the COCOM liberalizations.

1960's

In the 1960's the Allies accepted U.S. proposals to add significant COCOM coverage in the areas of integrated circuits and computers. The United States agreed to remove several items for which critical military applications had not developed as envisaged or for which Soviet capabilities had developed. However, the United States was able, through use of its veto under the COCOM rule of unanimity, to avoid further substantial relaxations along the lines of those experienced in 1954 and 1958.

In the late 1960's the United States itself proposed the most far-reaching of the COCOM liberalization measures agreed at that time. This was for decontrol of products containing integrated circuits. Such decontrol was necessary because of the wide-spread availability of such products.

1970's

During the 1970's, often thought of as the period of detente, the COCOM controls remained largely static. The number of exception cases grew and the United States share of those cases grew. This was largely a function of the continuing broad COCOM coverage of computers and of decisions that relatively low performance computers could be permitted for clearly civil end-uses. In macro terms the exception cases were insignificant. From 1971 to 1975, at the height of the detente period, COCOM-approved exception cases were valued at $592 million and some of these were not followed by actual exports. This was less than 1% of the $86 billion of exports during this period from COCOM member countries to COCOM proscribed destinations.

The United States continued to exercise its veto to prevent wholesale liberalizations through either delisting or exception cases. U.S. objections to cases submitted by other governments to COCOM for review were usually accepted; but they were occasionally followed by approvals by those governments. COCOM members retain their sovereign rights to do this. Fortunately it happens only rarely.

In 1978, the United States denied a computer to TASS as part of our reaction to the Shcharansky trial. We sought Allied assurances against undermining this foreign policy action, arguing that the computer might have been denied anyway on security grounds under COCOM procedures. France thereupon approved a more powerful computer for TASS in one of those rare cases of circumvention of COCOM agreed controls. The French action was apparently intended to underscore the French policy not to use export controls for political purposes.

Also in 1978, the United States proposed that COCOM rules be revised to tighten procedures for COCOM review of exception cases for particularly significant computers (e.g., array transform processors used for signal processing and image enhancement); to clarify software controls; and to tighten controls on automated telephone circuit switching equipment. Our Allies were, and are, sympathetic to these objectives. But they pointed out the need to decontrol computers which are essentially uncontrollable because of availability in retail outlets in scores of countries around the world. They believe software controls should be limited to clearly strategic types. And they are firmly convinced that some sales of telephone equipment can safely be permitted because of predominant civil use. The 1979 negotiations were closing the gap.

1980's

In 1980, the United States decided to submit a computer proposal more restrictive than its 1978 proposal, because of the Soviet invasion of Afghanistan. This effectively broke off the COCOM computer negotiations.

In 1982, we revived our 1978 computer proposals. The negotiations in the fall of 1982 and the spring of 1983 were once again closing the gap. At our insistence, COCOM agreed in June that final decisions should be made in October. To make this possible, official national positions on previously negotiated drafts were to be submitted to COCOM by September 15. On September 14 Defense recommended that the United States not deviate from its original proposals at the October meeting. Agreement was not reached at the October meeting or at a follow-up December meeting. Another session is scheduled for the spring of 1984.

Since early in 1980 there have been virtually no exception cases approved for the USSR. This no-exceptions policy followed the Soviet invasion of Afghanistan. A U.S. proposal to strengthen controls on silicon was agreed in large measure in 1980.

In 1980 we proposed in COCOM informal consultation on Soviet projects with more than $100 million Western input involving "process know-how" in a list of "defense priority industries" identified by such general terms as "metallurgy," "chemicals," and "aerospace." This followed highly publicized French and German sales to the USSR of a steel mill and an aluminum smelter even though the United States had denied U.S. exports to the same steel mill and aluminum smelter. In COCOM our Allies responded to our proposal by noting that (1) "$100 million" was not a strategic criterion; (2) "process know-how" and "defense priority industries" were not adequately defined; and (3) COCOM agreements disciplined by a formal case review procedure subject to the rule of unanimity were preferable to informal consultation. They suggested as an alternative that the United States submit technically precise proposals to review the formal COCOM List. We did so, concentrating in the defense priority industry of metallurgy. They then agreed, after careful review, to control three important, precisely defined items in the areas of (1) technology for the production of superalloys; (2) spherical aluminum powder; and (3) equipment and technology for the production of munitions list items. Thus, when we took the idea of controlling major projects to the COCOM negotiating table and listened, we eventually got more practical results than we had ourselves originally proposed.

Following the December 1981 imposition of martial law in Poland, COCOM agreed to strengthen silicon controls still further and to add new items on composite materials, space vehicles, and floating drydocks. The controversy over the U.S. unilateral pipeline controls was not discussed in COCOM.

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William A. Root Attachment 2

September 24, 1983

Open Letter to the President and to the Congress

The arrogance of the United States Government is rapidly eroding the effectiveness of controls on the export of strategic equipment and technology. Those who proclaim the loudest the need to strengthen these controls are doing the most to weaken them.

In his television speech following the Korean Airlines 007 incident, the President stressed the need to "redouble our efforts with our Allies to end the flow of military and strategic items to the Soviet Union." Since that time we have, instead, been redoubling our efforts to convey to our Allies that their views do not count, that we know best, and that they had better shape up. This is no way to obtain cooperation. It most certainly does not constitute efforts "with" our Allies.

Corrective action is needed immediately. We have set a time bomb in COCOM, the Coordinating Committee where NATO nations and Japan coordinate such controls. It is set to go off on October 17.

The most significant COCOM control in terms of number of cases reviewed is the computer item. The COCOM computer definition is obsolete, having been last revised on the basis of 1974 proposals. COCOM has been unable to reach agreement on a revised definition during the past five years of negotiations because of U.S. insistence that the Allies simply accept U.S. proposals. The Allies have been receptive to a wide range of U.S. strengthening proposals, for both hardware and software. But they have also submitted many constructive proposals of their own which would make the controls more effective.

During many months of negotiations over the past year a composite draft reflecting everyone's views was hammered out. COCOM accepted the U.S. proposal that a session to reach final decisions on differences not yet resolved begin on October 17. The United States is not prepared to negotiate at that session.

On September 14, on the eve of the September 15 deadline for submission of comments on the composite draft, Defense advised State and Commerce of its views that (1) COCOM was an inadequate forum to negotiate the important computer item; (2) the United States should not deviate from its pre-composite draft proposals at the October meeting; and (3) the real negotiations should take place later in an unspecified forum at which a senior Defense official would represent the United States.

The clear (though unstated) Defense objectives are to demonstrate that (a) COCOM as it is now constituted is ineffective and should be replaced by a military committee and (b) Defense should replace State as the agency responsible to conduct the negotiations. Reasonable people can differ on these jurisdictional questions. But we have no alternative but to proceed on the basis of the existing COCOM framework and the existing statutory authorization for State to conduct negotiations, until one or both are changed.

If the United States cannot get its act together, our Allies will conclude that they must use their national discretion to decide what to license and what not to license. Indeed, this has already happened in several important cases as a result of frustrations from the already protracted negotiations. The fundamental objective of COCOM is to avoid diverse actions taken at national discretion by coordinating the national export control decisions of the member governments.

On October 17, there will be a major, justified explosion of Allied resentment of U.S. contempt for the COCOM process.

U.S. arrogance stems directly from the kind of thinking which led to Section 10(g) of the Export Administration Act. This section requires the

President to report to the Congress any U.S. export control case for which the recommendation of the Defense Department is not followed. Although it does not literally apply to differences between State and Defense on COCOM negotiations, a spin-off effect has eliminated the kind of cooperation between those two Departments which is essential for such negotiations.

The President has never overruled Defense on an export control case and probably never will as long as Section 10(g) is on the books. The required report to the Congress would indicate that the Commander-in-Chief was not master in his own house. Defense personnel know that their views have prevailed on several occasions when it was generally believed that the President held different views. Accordingly, they see no reason to listen to the views of other agencies or of other governments. They are no doubt sincere in believing that they are thereby protecting the nation's security. However, the end-result is a situation in which it is impossible to conduct negotiations with our Allies. Effective controls depend upon negotiations, because the United States is not a unique supplier of most strategic items.

The issue is whether to have ineffective unilateral controls (the result of rigid adherence to U.S. proposals) or effective multilateral controls (which can be achieved through cooperative negotiations).

Our perverse efforts have been in the strategically less significant oil and gas area as well as in the computer area. Much attention has been given recently to recommendations to put our oil and gas proposals to COCOM under unilateral security controls and to deny a pending $40 million case for submersible pumps. The U.S. oil and gas proposals now before COCOM are the subject of on-going negotiations. The Allies have been extraordinarily cooperative in helping to find well-justified and clearly defined oil and gas related items which should be put under multilateral control. But it is apparent that substantial revision in our original proposals will be necessary in January. Any stiffening of our unilateral licensing policy based on the original proposals would greatly damage the cooperative atmosphere. This atmosphere was re-established with much difficulty after the 1982 pipeline controls controversy. Without it there can be no strengthening of multilateral controls in this area.

What should be done? The Administration should (1) negotiate the computer item on October 17 on the basis of the composite draft and (2) revise the U.S. oil and gas proposals to take into account the constructive suggestions of our Allies. The Congress should repeal Section 10(g) of the Export Administration Act when renewing this Act (which expires on September 30).

Sincerely,

/s/ William A. Root

WILLIAM A. ROOT
Director, Office of East West Trade,
Department of State
(until his resignation in protest
concerning the above on September 15)

William A. Root Attachment 3

Chronology of Events Related to Resignation of William A. Root

Computers

April 1983 - U.S. proposes that COCOM reach final decisions on the computer item in June; other COCOM members believe more time is needed.

June 1983 - U.S. insists and other COCOM members agree that COCOM should reach final decisions in October and that each member should notify COCOM by September 15 of its official position on draft texts developed at a COCOM Computer Working Group in April and June.

July, August, and early September - State calls inter-agency meetings but Defense is not prepared to attend. Technicians develop options concerning outstanding issues.

Early September - State prepares draft telegrams based on the options prepared by the technicians.

September 14 - Defense advises State and Commerce of its views that (1) the United States should not submit a position on September 15; (2) the United States should not deviate from its February proposals in October; and (3) a more senior COCOM group should meet following the October meeting.

Oil and Gas Equipment and Technology

February 1983 - U.S. submits proposals to COCOM.

April 1983 - COCOM agrees that some but not all of the topics covered by the U.S. proposals warrant further consideration.

June 1983 - U.S. resubmits its February proposals with additional detail.

July 1983 - Other COCOM members refuse to consider the U.S. June proposals at the scheduled July meeting and put off further consideration until January 1984.

September 12, 1983 - Root prepared recommendation to State Assistant Secretary McCormack that the U.S. refrain from putting its original proposals under unilateral controls and from denying equipment cases in order to avoid a recurrence of the type of dissension within the Alliance experienced in connection with the pipeline controls.

September 13, 1983 - An interagency committee chaired by Commerce Assistant Secretary Brady decides to put the U.S. proposals under unilateral controls and to deny the largest pending case, which was for deep submersible pumps (the committee later characterized its actions as recommendations).

William A. Root Attch. 3

Resignation

September 15, 1983 -
Root informs Assistant Secretary McCormack and Deputy Assistant Secretary Tahtinen that he "cannot in good conscience continue to work in this environment" and asks to be relieved of his duties.

September 16, 1983 -
Tahtinen complies with Root's request by naming the Deputy Director of the Office of East West Trade as the Acting Director and assigning other duties to Root. Others ask Root to reconsider.

September 23, 1983 -
Root, after reconsideration, nevertheless decides to proceed with his intent to resign and makes his retirement effective September 23, even though Tahtinen had suggested that he remain on the payroll until January 1984.

September 24, 1983 -
Root writes an open letter to the President and the Congress describing his reasons for resigning.

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Attachment 4

Response to Public Criticism of Root Resignation

1. Root's role in strengthening export controls

The Washington Post September 17, 1983, article reporting Root's decision to resign included the following quotation from Commerce Assistant Secretary Lawrence J. Brady:

> "(Root) failed to recognize the massive change in the attitude on the part of our allies toward export controls. Bill Root has been an impediment to this administration's attempts to strengthen the COCOM system from the very beginning. We will strengthen export controls and it will be done in spite of Bill Root."

Root's response follows:

> Following the Soviet invasion of Afghanistan, Root was the architect of the only sanction that worked, namely a policy of no exceptions to the USSR from the West of items requiring COCOM review. He also personally devised and negotiated stronger COCOM controls in the area of metallurgy technology transfer. This worked, whereas earlier efforts to stop major steel and aluminum projects for the USSR did not work. This was because our Allies would not agree to stop transactions based solely on the criterion of large size.
>
> Following the pipeline dispute in 1982, Root put together a package of control measures in the oil and gas field which COCOM found worthy of further study, in that it took into consideration constructive suggestions from other COCOM members. Mr. Brady's insistence that the United States adhere rigidly to original U.S. oil and gas proposals elicited Allied resistance rather than cooperation.
>
> During the last half of 1982 and the first half of 1983, Root led an international effort to devise stronger COCOM controls on the export of computers which bridged many of the wide gaps which had separated Allied positions.
>
> Brady advocated imposition of unilateral U.S. controls to demonstrate the seriousness of U.S. purpose, coupled with pressure on our Allies to adopt parallel controls. Root sees nothing in the past 35 year history of export controls to support an expectation of positive Allied reaction to such tactics. He has, therefore, consistently advocated painstaking negotiations with our Allies as the only route which will lead to stronger effective controls.

2. Root's role in stopping leaks of technology

The Washington Post September 26, 1983, article reporting Root's open letter to the President and the Congress on the occasion of his resignation included the following quotation from Defense Assistant Secretary Richard N. Perle:

> "(Root never threatened to resign) during the decade in which there were tremendously damaging leakages of technology from the West to the East. This administration is trying to reverse the mistakes that had been made in the past."

Root's response follows:

> Root's November 15, 1983, letter to Perle included the following:

William A. Root Attch. 4

"As for leakages of technology from the West to the East, I worked, with some success, for many years, with other Western Governments to bring to their attention U.S. intelligence that their export controls were being violated and to devise and encourage preventive and remedial measures. I would be most interested in any details you might have concerning situations in which my efforts in this respect could have been improved, even to the point of a resignation if that would have been a productive step."

Deputy Assistant Secretary Bryen's December 22, 1983, response, while containing nothing explicit on the subject of leakages, included the following:

"On behalf of Mr. Perle, I welcome your remarks as a chance to set the record straight and to clarify the events surrounding your resignation as presented by the media."

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PREPARED STATEMENT OF HON. RICHARD D. DELAUER

UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING

IT IS A PLEASURE FOR ME TO BE HERE THIS MORNING TO EXPAND UPON MY VIEWS OF TECHNOLOGY TRANSFER AS IT SUPPORTS ARMAMENTS COOPERATION IN NATO. I RECENTLY TESTIFIED TO THE HOUSE ARMED SERVICES SUBCOMMITTEE ON PROCUREMENT THAT ARMAMENTS COOPERATION REMAINS A PRIMARY WAY AHEAD TO INCREASE THE CONVENTIONAL CAPABILITIES OF THE ALLIANCE. ARMAMENTS COOPERATION MEANS TECHNOLOGY AND JOBS--AND THUS, PROVIDES TANGIBLE INCENTIVES FOR THE EUROPEANS TO MODERNIZE AND INCREASE THEIR CONVENTIONAL FORCE CAPABILITIES. WE MUST BE WILLING TO SHARE TECHNOLOGY IN ORDER TO MAKE ARMAMENTS COOPERATION SUCCEED.

THE SHARING OF TECHNOLOGY, AND THE DECISIONS THEREIN AS TO WHEN AND HOW TO TRANSFER TECHNOLOGY, IS A COMPLEX MATTER. IT IS IMPERATIVE THE DEFENSE DEPARTMENT MAINTAIN A BALANCED PERSPECTIVE TOWARD TRANSFER OF TECHNOLOGY IN RELATION TO STRENGTHENING OUR TECHNOLOGICAL BASE, TO OUR ARMAMENTS COOPERATION OBJECTIVES WITH FRIENDLY AND ALLIED NATIONS, AND TO THE HEALTH OF OUR OWN INDUSTRIES. IT IS IMPERATIVE THAT TECHNOLOGICAL EXPERTISE AND ACQUISITION RESPONSIBILITIES PREDOMINATE IN THESE DECISIONS. TECHNOLOGY TRANSFER AS AN ISOLATED ISSUE, WITH MIXED SIGNALS CONVEYED TO ALLIES AND TO INDUSTRY, WILL PROVE HIGHLY DETRIMENTAL TO THE LARGER NATIONAL SECURITY CONCERNS OF THE US.

THE REALITY IS THAT MILITARY TECHNOLOGY HAS A POSITIVE VALUE AND A HALF-LIFE. THUS, WE MUST RESIST THE TEMPTATION, FREQUENTLY FELT BY SOME, TO SIMPLY LOCK AWAY NEW DISCOVERIES FOR FEAR OF THEIR LEAKAGE TO OUR ADVERSARIES. WHEN WE LOCK DISCOVERIES AWAY INSTEAD OF QUICKLY APPLYING THEM TO NEW WEAPON SYSTEMS WE WILL MORE OFTEN THAN NOT FIND THAT ONE OF TWO UNDESIRABLE THINGS HAVE OCCURRED--AT BEST, THE DISCOVERY MAY HAVE BEEN WASTED--SIMPLY OVERCOME BY EVENTS; AT WORST, THE DISCOVERY MAY HAVE FOUND ITS WAY INTO A SOVIET WEAPON SYSTEM BEFORE IT FINDS ITS WAY INTO A NATO WEAPON SYSTEM. THIS IS NOT TO DOWNPLAY THE NEED FOR IMPROVED SECURITY. WE MUST STOP THE LEAKAGE OF WESTERN TECHNOLOGY TO THE SOVIET BLOC; HOWEVER, WE MUST SIMULTANEOUSLY HASTEN THE RATE AT WHICH THE WEST INCORPORATES ITS TECHNOLOGY INTO ALLIANCE WEAPON SYSTEMS.

I BELIEVE AN EXAMPLE FROM MY PAST INDUSTRIAL EXPERIENCE CAN BEST ILLUSTRATE WHAT I BELIEVE TO BE THE BENEFITS AND THE APPROACH WE SHOULD TAKE TOWARD TECHNOLOGY TRANSFER. IN 1962, THE US HAD A MONOPOLY ON SPACE COMMUNICATIONS TECHNOLOGY. INTELSAT THAT YEAR SOUGHT A MAJOR PROGRAM INITIATION; BUT, INSISTED ON PARTICIPATION BY EUROPEAN FIRMS IN ROUGHLY THE SAME PROPORTIONS AS THEIR NATIONAL VOLUME OF COMMUNICATIONS TRAFFIC. MY FIRM, TRW, AS WELL AS HUGHES AND FORD AEROSPACE FORMED CONSORTIUM WHICH INCLUDED EUROPEAN FIRMS IN TRUE COMPETITION. OVER THE YEARS THESE CONSORTIA HAVE CONTINUED TO COMPETE FOR SUCCESSIVE PORTIONS OF THE INTELSAT PROGRAM, WITH EACH WINNING A SHARE. IN THE PROCESS, THE US FIRMS HAVE TRANSFERRED SIGNIFICANT SPACE COMMUNICATIONS TECHNOLOGY TO THEIR CONSORTIUM PARTNERS. THE BENEFITS TO THE US AND THE WEST ARE SUBSTANTIAL.

FIRST, THE TRANSFER CREATED A SPACE COMMUNICATIONS INDUSTRIAL BASE IN EUROPE WHICH HAS STRENGTHENED THE WEST'S TECHNOLOGICAL-INDUSTRIAL CAPABILITIES. SECOND, THE US FIRMS REINVESTED THE EARNINGS FROM THE TRANSFER OF TECHNOLOGY AND HAVE THEREBY CONTINUED TO MAINTAIN A STRONG LEAD IN THIS TECHNOLOGY--THAT IS, EXACTLY WHAT I MEAN WHEN I SAY TECHNOLOGY HAS A POSITIVE VALUE AND A HALF-LIFE. AND THIRD, WHILE WITHOUT THE PARTICIPATION OF EUROPEAN FIRMS THE EUROPEAN PTT'S COULD HAVE, AND PROBABLY WOULD HAVE, LIMITED THE GROWTH IN THE USE OF SPACE COMMUNICATIONS, INSTEAD EUROPEAN PARTICIPATION HAS ACCELERATED THE GROWTH IN THIS MARKET AS THE PTT'S WERE THEREBY MOTIVATED TO EXPAND THE GROUND SEGMENT. I BELIEVE EACH OF THESE BENEFITS HAS AN ANALOGUE IN THE BENEFITS WE CAN EXPECT FROM SHARING TECHNOLOGY WITHIN THE ARMAMENTS COOPERATION FRAMEWORK.

THE ALLIANCE MUST INDEED DO A BETTER JOB IN SAFEGUARDING MILITARY TECHNOLOGY FROM OUR ADVERSARIES. OBVIOUSLY, SUCCESS IN SAFEGUARDING WILL REDUCE THE FEARS OVER THE SHARING OF TECHNOLOGY WITH ALLIES AND FRIENDS; AND CUTTING OFF THE FLOW TO OUR ADVERSARIES WILL MEAN LESS CAPABLE EQUIPMENT IN THEIR HANDS

BUT, LET US BE CLEAR ABOUT HOW THEY ACQUIRE OUR TECHNOLOGY. THEY ACQUIRE IT IN TWO WAYS--THROUGH ESPIONAGE AND THROUGH TRADE. THE SOLUTION TO THE LOSS THROUGH ESPIONAGE IS FOR US, AND EACH ALLIANCE MEMBER, TO TIGHTEN UP INDUSTRIAL SECURITY. THE SOLUTION TO THE LOSS THROUGH TRADE IS FOR US, AND EACH ALLIANCE MEMBER, TO MAKE THE COCOM CONTROLS EFFECTIVE. WE, AND THE ALLIANCE MEMBERS, ARE PROPERLY AND ACTIVELY WORKING TO THESE ENDS.

WE DO NOT SOLVE THE PROBLEM BY REFUSING, OR FAILING, TO SHARE TECHNOLOGY. RATHER, IF WE FAIL TO SHARE, THEN THE COMBINATION OF THE NATO NATIONS' LONGER LEAD TIMES, UNNECESSARY DUPLICATION IN DEVELOPMENT AND PRODUCTION, AND LIMITED STANDARDIZATION RESULTING IN FAR LESS THAN OPTIMUM MASS PRODUCTION LEVELS EITHER HERE OR IN EUROPE, NOT ONLY WASTES NATO'S LIMITED RESOURCES--BUT CEDES THE DEPLOYED TECHNOLOGICAL AND INDUSTRIAL ADVANTAGE TO THE OTHERWISE BACKWARD ECONOMIES OF THE WARSAW PACT.

ULTIMATELY, IF THE EUROPEAN NATIONS CAN ACT IN A UNITED AND COLLECTIVE BASIS, AS EMPHASIZED IN THE CULVER-NUNN RESOLUTION, WE CAN EXPECT INCREASED TRADE IN DEFENSE PRODUCTS AND LESS TRANSFER OF MANUFACTURING TECHNOLOGY. THE RESULT WOULD BE TWOFOLD; THE MORE EFFICIENT USE OF ALLIANCE RESOURCES, AND, AS CONCLUDED BY BUCY'S TASK GROUP A FEW YEARS AGO, THE REDUCTION IN TRANSFER OF THE CRITICAL TECHNOLOGY--THAT IS, MANUFACTURING KNOWHOW. WE MUST CONTINUE OUR EFFORTS TO MAKE ARMAMENTS COOPERATION EFFECTIVE. I SOLICIT YOUR SUPPORT.

PREPARED STATEMENT OF HON. JOHN M. WALKER, JR.
ASSISTANT SECRETARY FOR ENFORCEMENT AND OPERATIONS
DEPARTMENT OF THE TREASURY

MR. CHAIRMAN, I AM PLEASED TO HAVE THE OPPORTUNITY TO APPEAR BEFORE THIS COMMITTEE ON THE SUBJECT OF CONTROLLING THE TRANSFER OF MILITARILY SIGNIFICANT TECHNOLOGY FROM THE WEST TO THE SOVIET BLOC.

PREVENTING THE FURTHER EROSION OF THIS COUNTRY'S DEFENSE CAPABILITY BY DIVERSIONS OF EXPORTS OF CRITICAL TECHNOLOGY IS ONE OF THE HIGHEST ENFORCEMENT PRIORITIES OF THIS ADMINISTRATION. A SUCCESSFUL EXPORT ENFORCEMENT PROGRAM IS ABSOLUTELY ESSENTIAL IN MAINTAINING THE TECHNOLOGICAL ADVANTAGE THAT IS A CORNERSTONE OF THE UNITED STATES DEFENSE CAPABILITY.

AS YOU KNOW, MR. CHAIRMAN, A RECENT EXPORT ADMINSTRATION ACT CASE INVOLVING THE ATTEMPTED DIVERSION OF HIGH SPEED, STATE-OF-THE-ART COMPUTER SYSTEMS HAS ONCE AGAIN HIGHLIGHTED THE THREAT POSED BY SOVIET EFFORTS TO REAP THE BENEFITS OF OUR EXPENSIVE DEFENSE-RELATED TECHNOLOGICAL RESEARCH AND DEVELOPMENT. AT THE SAME TIME, QUESTIONS HAVE BEEN RAISED CONCERNING THE OVERALL EFFECTIVENESS OF OUR GOVERNMENT'S MULTI-AGENCY PROGRAM TO PREVENT OUR TECHNOLOGICAL GAINS FROM GETTING INTO THE HANDS OF THE SOVIETS. FROM THE TREASURY PERSPECTIVE, EXISTING WEAKNESSES IN THE GOVERNMENT'S PROGRAM ARE A MATTER OF GRAVE CONCERN. IN MY TESTIMONY TODAY, I WILL IDENTIFY WHAT TREASURY CONSIDERS THESE WEAKNESSES TO BE, AND I WILL REPORT ON THE STEPS THAT ARE BEING TAKEN TO REMEDY THEM. IN ADDITION, I WILL DISCUSS THE WORKING RELATIONSHIPS OF THE FEDERAL AGENCIES INVOLVED AND ADDRESS THE MATTER OF COORDINATION WITH PRIVATE INDUSTRY.

OPERATION EXODUS

AT THE OUTSET, I BELIEVE IT WOULD BE USEFUL FOR ME TO FIRST DESCRIBE THE EXPORT CONTROL ENFORCEMENT PROGAM OF THE U.S. CUSTOMS SERVICE. THE CUSTOMS PROGRAM, OPERATION EXODUS, WAS INITIATED IN LATE 1981 AS A CONCENTRATED EFFORT TO ENFORCE BOTH THE EXPORT ADMINISTRATION ACT AND THE ARMS EXPORT CONTROL ACT. ADDRESSING THESE TWO RESPONSIBILITIES IN THE SAME PROGRAM PROMOTES MORE EFFICIENT AND EFFECTIVE ENFORCEMENT OF EACH OF THESE AUTHORITIES. EXPERIENCE HAS SHOWN THAT THE SAME VIOLATORS, DIVERSION TECHNIQUES AND INVESTIGATIVE METHODS ARE INVOLVED IN CASES UNDER THE EXPORT ADMINISTRATION ACT, IN ITS CONTROL OF DUAL-USE TECHNOLOGY, AND THE ARMS EXPORT CONTROL ACT, IN ITS CONTROL OF SHIPMENTS OF MUNITIONS.

OPERATION EXODUS SEEKS TO CONTROL ILLICIT EXPORTS IN TWO BASIC WAYS: FIRST, BY THE INSPECTION AND CONTROL OF EXPORT SHIPMENTS, AND SECOND, BY THE INVESTIGATION OF POTENTIAL VIOLATIONS OF EXPORT CONTROLS, BOTH IN THE UNITED STATES AND ABROAD.

INCREASING THE EFFECTIVENESS OF CUSTOMS' INSPECTION AND CONTROL OF EXPORT CARGO WAS THE FIRST PRIORITY OF OPERATION EXODUS IN LATE 1981 AND EARLY 1982. THIS ASPECT OF THE PROGRAM IS NOW A HIGHLY EFFECTIVE DETERRENT TO THE TWO MOST EFFICIENT MEANS OF VIOLATING THE EXPORT LAWS, NAMELY OUT-AND-OUT SMUGGLING AND THE USE OF FALSE DOCUMENTATION. OUR SUCCESS IN THIS EFFORT IS ILLUSTRATED BY THE EXODUS SEIZURES TO DATE: THIS PROGRAM HAS ACCOMPLISHED 3,046 SEIZURES WITH A TOTAL VALUE OF $187 MILLION.

SIGNIFICANTLY, CUSTOMS HAS CONTINUALLY IMPROVED ITS ABILITY TO CONDUCT ITS INSPECTIONS AT THE BORDER IN A WAY THAT MINIMIZES INTERFERENCE WITH LEGITIMATE EXPORT TRADE. DURING THE FIRST YEAR OF EXODUS OPERATIONS, 30% OF THOSE SHIPMENTS DETAINED AT THE BORDER WERE EVENTUALLY SEIZED FOR VIOLATIONS OF THE ACT OR REGULATIONS UNDER IT. DURING FISCAL YEAR 1983, THE SECOND YEAR FOR THE PROGRAM, THIS SEIZURE-TO-DETENTION RATIO ROSE TO APPROXIMATELY 40%. AT PRESENT, THE RATIO HAS REACHED 50%, AND WE EXPECT THAT IT WILL CONTINUE TO IMPROVE IN THE MONTHS AHEAD.

BECAUSE SMUGGLING AND FALSE DOCUMENTATION ARE FAR RISKIER NOW THAN PREVIOUSLY, THE SOVIET AND EASTERN BLOC AGENTS AND THOSE WHO SEEK TO PROFIT BY ASSISTING THEM OR ACTING IN CONCERT WITH THEM HAVE SHIFTED TO MORE SOPHISTICATED METHODS. TODAY, ORGANIZATIONS CONSPIRING TO VIOLATE OUR EXPORT CONTROLS ARE MOST LIKELY TO DO SO BY DIVERTING SHIPMENTS THROUGH A THIRD COUNTRY. THE REGULAR MODUS OPERANDI OF THESE GROUPS IS TO OBTAIN LICENSES SHOWING END-USE IN A NON-BLOC COUNTRY, SOMETIMES A COCOM MEMBER. DUMMY CORPORATIONS ARE TYPICALLY USED TO AVOID THE IDENTIFICATION OF KNOWN VIOLATORS. IN GENERAL, THIS METHOD PRECLUDES DISRUPTION BY REGULAR CUSTOMS INSPECTION SINCE THE DOCUMENTATION WILL SHOW AN ULTIMATE DESTINATION TO A CORPORATION OR PERSON IN AN APPROVED COUNTRY, AND A CHECK WITH THE LICENSING AUTHORITY WILL VERIFY THE EXISTENCE OF A VALID EXPORT LICENSE. ONLY WHEN THE ITEM GETS TO ITS DECLARED "FINAL DESTINATION" WILL EVIDENCE OF THE VIOLATION APPEAR: QUITE SIMPLY THE ITEM WILL DISAPPEAR, FIRST FROM THE STATED END-USER COMPANY AND THEN FROM THE STATED END-USER COUNTRY.

THE VAX CASE, INVOLVING A HIGHLY ORGANIZED SYNDICATE HEADED BY RICHARD MUELLER, IS A STRIKING EXAMPLE OF HOW EXTENSIVELY THIS METHOD HAS BEEN USED. AS A RESULT OF THIS CASE, CUSTOMS HAS UNCOVERED A COMPLEX NETWORK OF CORPORATIONS IN SEVERAL COUNTRIES AND IDENTIFIED A NUMBER OF MUELLER'S MAJOR OPERATIVES. I WILL RETURN TO THIS CASE LATER, TO DISCUSS ITS IMPLICATIONS IN FURTHER DETAIL.

AS DIVERSION HAS BECOME THE CHIEF MEANS OF OVERCOMING THE EFFECT OF U.S. EXPORT CONTROL LAWS, OPERATION EXODUS HAS SHIFTED ITS PRINCIPAL FOCUS FROM INSPECTIONS TO INVESTIGATIONS, BOTH DOMESTIC AND FOREIGN. CUSTOMS HAS A FULL COMPLEMENT OF TRAINED, EXPERIENCED INVESTIGATIVE PERSONNEL AND SUPPORT STAFF TO CONDUCT EXPORT CONTROL CASES BOTH AT HOME AND ABROAD. CUSTOMS HAS 292 FULL-TIME DOMESTIC PERSONNEL, AND 32 OVERSEAS PERSONNEL, DEDICATED TO OPERATION EXODUS, BUT EXPORT ENFORCEMENT IS ALSO A HIGH PRIORITY AMONG CUSTOMS' ENTIRE STAFF OF 900 SPECIAL AGENTS AND 6000 INSPECTORS, PATROL OFFICERS AND IMPORT SPECIALISTS.

Because overseas diversion is central to most conspiracies to violate our country's export controls, Customs foreign presence has been essential in its success to date. The reciprocal assistance which U.S. Customs routinely provides to various foreign enforcement agencies allows Exodus to benefit from extensive foreign cooperation and support in its export control investigations. Customs Attaches have been in place for many years and have developed long-standing and harmonious relationships with almost all of the free world's customs and police services. We have recently increased the staff in several Customs Attache offices and have opened new foreign offices for the specific purpose of handling export control investigations.

The customs service of almost every country with which U.S. Customs deals in these matters is responsible for export control enforcement and is U.S. Customs' natural point of contact. The customs services of the world maintain relationships with one another through multi-lateral organizations, such as the Customs Cooperation Council, or CCC, and through agreements, such as the Nairobi Convention ratified in 1983, that provide access to all types of documentation relating to the import, export or transit of goods. The current Director General of the CCC is a former Deputy Commissioner of U.S. Customs.

In addition, Exodus relies heavily on Customs mutual assistance agreements with counterpart customs services in France, Germany, Austria and Mexico. Italy and Canada are under consideration for similiar mutual assistance agreements, and other reciprocal agreements have been reached between U.S. Customs and the customs services of the United Kingdom and Canada.

EXODUS ACCOMPLISHMENTS

Since the inception of Operation Exodus in October 1981, the program has produced 346 cases accepted for prosecution, 235 indictments, 302 arrests, and 207 convictions.

One of the first significant Exodus investigations was the Land Resources Management Case in 1982, in which Customs prevented the diversion of an airborne, multispectral scanner that was bound for the Soviet Union by way of Mexico and Switzerland.

Another significant case for Customs arose from a 1983 investigation centered in Denver, Colorado, into violations of the Export Administration Act and Arms Export Control Act. Customs prevented the diversion of a sophisticated seismograph system by the International Consulting Group. This system was designed specifically for monitoring nuclear weapons tests. Also seized was a laser system used for measuring and testing fiber optics, trimming resistors, and making silicon waifers. A joint investigation by U.S. and German Customs determined that the final destination of both pieces of equipment was to be Moscow.

Two defendants have each pled guilty to felony counts under the EAA and Arms Export Control Act. These defendants, in pleading guilty, admitted to having made fourteen other illegal shipments of controlled technology, including a Raytheon 500 computer system and various lasers.

With regard to the VAX case mentioned earlier, this investigation has probably been the most significant one undertaken by Customs since Operation Exodus began. It has broken up the largest known criminal technology diversion organization in history.

The Customs investigation began on November 3, 1983, when the Customs attache in Bonn recieved information that a VAX 11/782, a high power, state-of-the-art super computer with numerous military applications, was enroute to the Soviet Union from South Africa aboard a Swedish vessel. Customs learned that the shipment was consigned to a front company in Sweden controlled by Richard Mueller. Mueller is well known to Customs as a diverter of strategic technology to the Soviets and a fugitive from a 1979 indictment charging violations of the Export Adminstration Act.

Working in concert with German Customs, U.S. Customs seized three containers of VAX computer hardware and software, in Hamburg, thus preventing delivery to the Soviets. From later information developed in the case, Customs was able to work with Swedish authorities to arrange for the seizure in Sweden of four additional containers of VAX equipment that the Mueller organization was also attempting to divert. Both seizures, seven containers in all, weighing in excess of twenty-five tons, have now been returned to the United States for evidence.

Mueller controlled Microelectronics Research Institute Ltd. (MRI) of South Africa, and had used this corporation in his diversion attempts. The Customs investigation, which is still ongoing, has discovered that Mueller's control of MRI was disguised by his control of at least eight other front corporations--two in Switzerland and at least six in South Africa. In all, four of Mueller's associates have been arrested and face trial in West Germany or Sweden.

Besides disruption of the Mueller organization, the case has produced substantial leads for further investigations of international diversions. It has also demonstrated that cooperation with foreign law enforcement and exchange of intelligence with foreign law enforcement agencies are absolutely essential to success in diversion cases.

SHORTCOMINGS IN THE ENFORCEMENT OF NATIONAL SECURITY EXPORT CONTROLS

Mr. Chairman, while the VAX case is a major success in U.S. enforcement of national security controls, it points up the importance of the President's decision to improve the current, multiagency effort to control shipments of critical technology.

In my view, there are two shortcomings in the current EAA enforcement program. These issues have been of concern to Treasury since long before the VAX case. That case has, however, served to highlight them.

First, we can no longer tolerate the conduct of an enforcement program in which information is not fully shared among the Federal agencies involved. Information possessed by Commerce in 1980 indicated that Semitronics AG, one of Mueller's Swiss-front companies, was attempting to procure an ion implantation device, used in semiconductor manufacturing, through Microelectronics Research Institute, or MRI, of South Africa. This information alone strongly suggests the possibility of diversion. However, in 1981, when Commerce began an inquiry into MRI, Commerce learned that MRI was also controlled by Mueller. Although Customs had been aware of Mueller as a known diverter since 1974, none of this other information was known to Customs until November of 1983, when Customs began its own investigation based on the information received by the Customs attache in Bonn.

Even more unfortunate for our national security is that between May 19, 1980 and July 5, 1983, sixteen export licenses were approved by Commerce with MRI as the approved end-user. They covered national-security-controlled computer and semiconductor production equipment valued at over $7 million. Customs was unaware of these licensing determinations until November 1983. Customs now has information that during 1983, while seven containers were interdicted as I have described, eight containers of VAX equipment and supplies were successfully diverted to Moscow, by the Mueller organization.

This past history of Mueller's violations underscores the importance of full sharing of licensing information by Commerce and Customs. The President's recent decisions on EAA enforcement contemplate a full, computerized network of licensing information. Customs is currently seeking to reach agreement with Commerce to carry this out. It is also critical that Defense have the same access to this information for it to fulfill its proper role in the licensing process.

A SECOND SHORTCOMING, HIGHLIGHTED BY THE VAX CASE, IS THE NEED FOR A BROADER DEFENSE DEPARTMENT ROLE IN REVIEWING CERTAIN LICENSING APPLICATIONS, BOTH FOR INDIVIDUAL VALIDATED LICENSES AND FOR DISTRIBUTION LICENSES. THE PRESIDENT HAS APPROVED A LARGER DEFENSE DEPARTMENT ROLE IN PRINCIPLE AND HAS DIRECTED THAT THE DEFENSE AND COMMERCE DEPARTMENTS REACH AGREEMENT ON WAYS TO IMPLEMENT IT. THIS AGREEMENT HAS BEEN REACHED AND WILL BE COMMENTED ON BY OTHER WITNESSES DURING THE COURSE OF THESE HEARINGS.

WORKING RELATIONSHIPS WITH OTHER GOVERNMENT AGENCIES

TURNING TO THE MATTER OF OUR WORKING RELATIONSHIPS WITH THE DEPARTMENTS OF DEFENSE AND COMMERCE IN THE ENFORCEMENT OF THE EXPORT ADMINISTRATION ACT, I WOULD LIKE TO SAY AT THE OUTSET, MR. CHAIRMAN, THAT TREASURY CONSIDERS FULL COOPERATION AMONG FEDERAL AGENCIES TO BE ABSOLUTELY ESSENTIAL TO AN EFFECTIVE ENFORCEMENT PROGRAM, AND FULLY ENDORSES THE PRESIDENT'S RECENT DIRECTIVE THAT ALL THE INVOLVED AGENCIES WORK TOGETHER TO PROTECT OUR NATION'S CRITICAL TECHNOLOGY.

THE CUSTOMS SERVICE ENJOYS AN EXCELLENT WORKING RELATIONSHIP WITH THE DEPARTMENT OF DEFENSE. FOR EXAMPLE, CUSTOMS AND DOD, TOGETHER WITH OTHER FEDERAL AGENCIES, ARE SEEKING TO IDENTIFY THE ACQUISITION PRIORITIES OF THE SOVIET BLOC. CUSTOMS WANTS TO BE ABLE TO BETTER CONCENTRATE ITS ENFORCEMENT EFFORT ON THE PARTICULAR ITEMS THAT ARE OF HIGH STRATEGIC CONSEQUENCE. DOD'S EXPERTISE IS INVALUABLE IN IDENTIFYING THE POTENTIAL APPLICATION OF DUAL-USE U.S. AND WESTERN TECHNOLOGY BY OUR ADVERSARIES. IN THE VAX CASE, DOD PROVIDED THIS ASSISTANCE TO TREASURY AND ITS INVOLVEMENT WAS INSTRUMENTAL IN OUR ULTIMATE SUCCESS.

DOD SUPPORT HAS ALSO BEEN INVALUABLE IN OTHER WAYS, INCLUDING DELIVERING EXPERT TESTIMONY IN FEDERAL COURTS ON EXPORT CONTROL MATTERS, IDENTIFYING SEIZED MATERIALS, AND PROVIDING ADVICE TO OUR PERSONNEL REGARDING THE NATURE OF THE SOVIET MILITARY.

WITH REGARD TO THE COMMERCE DEPARTMENT, TREASURY AND CUSTOMS HAVE PLACED A HIGH PRIORITY ON IMPROVING OUR WORKING RELATIONSHIPS. IN THE PAST, OUR DEPARTMENTS HAVE HAD DISAGREEMENTS ON POLICY AND OPERATIONAL MATTERS. CONSISTENT WITH THE PRESIDENT'S DIRECTIVE THAT ALL DEPARTMENTS WORK TOGETHER TO GUARD OUR CRITICAL TECHNOLOGY, WE ARE VIGOROUSLY WORKING TO REACH A SETTLEMENT OF OUR DIFFERENCES. I HAVE DIRECTED THAT CUSTOMS PERSONNEL GIVE THEIR FULL COOPERATION TO COMMERCE AT EVERY OPPORTUNITY.

SPECIFICALLY, CUSTOMS INTENDS TO CONTINUE ITS POLICY OF CONSULTATION WITH COMMERCE ON EVERY EAA INVESTIGATION AND EVERY ARMS EXPORT CASE IN WHICH COMMERCE HAS AN INTEREST. CUSTOMS HONORS ALL REQUESTS FROM COMMERCE FOR INVESTIGATIVE INFORMATION, PROVIDED THAT DISCLOSURE WOULD NOT BE CONTRARY TO ESTABLISHED GUIDELINES UNDER RULE 6(E) OF THE FEDERAL RULES OF CRIMINAL PROCEDURE, FOR DISCLOSURE OF GRAND JURY INFORMATION, NOR CONTRARY TO AGREEMENT WITH A THIRD AGENCY CONCERNING THE DISSEMINATION OF THEIR INFORMATION.

CUSTOMS PROVIDES ASSISTANCE TO COMMERCE IN EXECUTING SEARCH AND ARREST WARRANTS, SINCE COMMERCE INVESTIGATORS DO NOT HAVE STATUTORY LAW ENFORCEMENT AUTHORITY. IN TURN CUSTOMS LOOKS TO COMMERCE FOR DETERMINATIONS ON ALL MATTERS PERTAINING TO LICENSING, AND ALSO FOR THE CONDUCTING OF PRE-LICENSE CHECKS AND POST-SHIPMENT VERIFICATIONS IN CONNECTION WITH EXPORT SHIPMENTS.

REGARDING INVESTIGATIONS IN FOREIGN COUNTRIES, CUSTOMS IS MAKING EVERY EFFORT TO IMPLEMENT A MEMORANDUM OF UNDERSTANDING SIGNED BY TREASURY AND COMMERCE ON JANUARY 16, 1984, AND REAFFIRMED BY THE PRESIDENT IN HIS RECENT DECISIONS.

AS YOU KNOW, MR. CHAIRMAN, THIS MEMORANDUM OF UNDERSTANDING WOULD ALLOW BOTH CUSTOMS AND THE COMMERCE DEPARTMENT TO CONTINUE TO CONDUCT EXPORT ADMINISTRATION ACT INVESTIGATIONS ABROAD. IT ESTABLISHES AS A GENERAL PRINCIPLE THAT CUSTOMS IS TO BE THE LIAISON WITH FOREIGN CUSTOMS AND OTHER FOREIGN LAW ENFORCEMENT AGENCIES WITH RESPECT TO EXPORT ADMINISTRATION ACT INVESTIGATIONS. THERE ARE, HOWEVER, EXCEPTIONS FOR INVESTIGATIONS CONDUCTED BY COMMERCE IN SIX COUNTRIES--AUSTRIA, BELGIUM, INDIA, JAPAN, SWEDEN, AND TURKEY. IN THESE COUNTRIES, COMMERCE MAY CONDUCT LIAISON

DIRECTLY WITH LAW ENFORCEMENT AGENCIES OTHER THAN CUSTOMS SERVICES. IN SUCH COUNTRIES, ALL OF WHICH ARE SIGNIFICANT FROM A DIVERSION STANDPOINT, BOTH AGENCIES, IN CONDUCTING EXPORT ADMINISTRATION ACT INVESTIGATIONS, MAY COMMUNICATE DIRECTLY WITH NON-CUSTOMS FOREIGN LAW ENFORCEMENT AUTHORITIES. HOWEVER, THE MOU REQUIRES THAT CUSTOMS AND COMMERCE KEEP EACH OTHER FULLY INFORMED REGARDING THESE INVESTIGATIONS.

COORDINATION WITH PRIVATE INDUSTRY

WITH RESPECT TO COORDINATION WITH PRIVATE INDUSTRY, TREASURY AND CUSTOMS RECOGNIZE THAT NO EXPORT CONTROL ENFORCEMENT PROGRAM CAN SUCCEED WITHOUT THE FULL SUPPORT OF THE BUSINESS COMMUNITY. EVER SINCE EXODUS BEGAN, COMMISSIONER VON RAAB AND I HAVE BEEN MOST GRATIFIED TO SEE THE HIGH LEVEL OF SUPPORT AND COOPERATION THAT U.S. MANUFACTURERS HAVE DEMONSTRATED FOR OUR PROGRAM.

BOTH COMMISSIONER VON RAAB AND I HAVE MADE A CONCERTED EFFORT TO COMMUNICATE THE GOALS OF EXODUS, TO SEEK INDUSTRY COOPERATION, AND TO KEEP U.S. BUSINESS FULLY INFORMED ON WAYS IN WHICH THEY CAN BE PARTNERS WITH US IN PREVENTING THE FLOW OF CRITICAL TECHNOLOGY TO THE SOVIET BLOC.

TO THIS END, CUSTOMS HEADQUARTERS MAINTAINS A CENTRAL REPOSITORY OF INDUSTRY LIAISON CONTACTS. BY DIRECT MAILINGS, AND BY NUMEROUS PUBLIC APPEARANCES, WE HAVE INFORMED OVER 1700 MANUFACTURERS AND EXPORTERS OF THE NATURE OF OUR PROGRAM. WE HAVE PASSED ON GUIDANCE ON WAYS TO RECOGNIZE TRANSACTIONS THAT INDICATE DIVERSION.

I WOULD HASTEN TO ADD, MR. CHAIRMAN, THAT INDUSTRY ASSISTANCE HAS BEEN INSTRUMENTAL IN SEVERAL SUCCESSFUL INVESTIGATIONS. FOR EXAMPLE, THE INTERNATIONAL CONSULTING GROUP CASE IN DENVER, TO WHICH I REFERRED EARLIER, WOULD NOT HAVE BEEN POSSIBLE WITHOUT THE COOPERATION OF KEY REPRESENTATIVES OF THE MANUFACTURER OF THE EQUIPMENT INVOLVED. IN ADDITION, THERE HAVE BEEN SITUATIONS WHERE IN RESPONSE TO OUR DIRECT MAILINGS, BUSINESSES HAVE PROVIDED CUSTOMS WITH INFORMATION ON POSSIBLE DIVERSIONS, LEADING TO FULL INVESTIGATIONS BY CUSTOMS.

THE IMPACT ON LEGITIMATE TRADE

THERE IS ONE FINAL MATTER, MR. CHAIRMAN, THAT HAS TO BE ADDRESSED AND THAT IS THE IMPACT OF EXODUS ON LEGITIMATE TRADE. AS THE EXPORT ADMINISTRATION ACT HAS COME UP FOR RENEWAL, THERE HAVE BEEN STATEMENTS, PARTICULARLY IN SUPPORT OF THE HOUSE BILL, THAT OPERATION EXODUS INTERFERES WITH OUR COUNTRY'S VITAL EXPORT TRADE. SUCH STATEMENTS ARE IRRESPONSIBLE AND IGNORE THE FACTS AND THEY CAN ONLY BE POLITICALLY MOTIVATED. BUREAU OF THE CENSUS STATISTICS INDICATE THAT APPROXIMATELY 8 MILLION EXPORT SHIPMENTS LEAVE THE UNITED STATES EVERY YEAR. IN FISCAL YEAR 1983, OPERATION EXODUS DETAINED A TOTAL OF 3,620 SHIPMENTS. THIS REPRESENTS LESS THAN ONE TWENTIETH OF ONE PERCENT OF THE TOTAL.

WITH REGARD TO DELAYS IN LEGITIMATE SHIPMENTS, CUSTOMS REFERS ALL EAA DETENTIONS TO COMMERCE WITHIN 24 HOURS. COMMERCE'S AVERAGE RESPONSE TIME IS 5 1/2 DAYS. CUSTOMS THEN RELEASES ALL SHIPMENTS WITHIN 24 HOURS OF NOTIFICATION BY COMMERCE THAT THEY ARE PROPERLY LICENSED.

AS I DESCRIBED EARLIER, OUR SEIZURE-TO-DETENTION RATIO IS CLIMBING. WE ARE CONSTANTLY LOOKING INTO WAYS TO MAKE FURTHER IMPROVEMENTS. ALL OF US IN THIS ADMINISTRATION ARE COMMITTED TO MINIMIZING THE INCONVENIENCE FOR EXPORTERS IN ANY WAY FEASIBLE.

IN SUMMARY, MR. CHAIRMAN, WHILE OPERATION EXODUS HAS MADE SUBSTANTIAL PROGRESS AND WE CAN BE PROUD OF OUR RECORD TO DATE, THERE IS MUCH TO BE DONE WITHIN THE EXECUTIVE BRANCH TO BE TRULY EFFECTIVE IN APPLYING EXPORT CONTROLS. THE PRESIDENT'S DECISIONS FULLY RECOGNIZE THIS NEED AND PROVIDE FOR THE FOLLOWING:

- THERE MUST BE COMPLETE SHARING OF INFORMATION, PARTICULARLY LICENSING INFORMATION, AMONG COMMERCE, CUSTOMS AND DOD.
- DOD MUST HAVE A BROADER ROLE IN THE LICENSING PROCESS, IN THE REVIEW OF BOTH INDIVIDUAL AND DISTRIBUTION LICENSES.

PRESIDENT REAGAN HAS ADDRESSED THESE NEEDS AND STRONGLY ENDORSED THESE IMPROVEMENTS. IT NOW REMAINS FOR THOSE OF US IN THE RESPONSIBLE DEPARTMENTS TO CARRY THEM OUT. ONLY WHEN THIS IS DONE CAN WE SAY THAT WE ARE MEETING THE CHALLENGE TO OUR NATIONAL SECURITY POSED BY THE FLOW OF CRITICAL TECHNOLOGY TO THE SOVIET BLOC.

PREPARED STATEMENT OF LARRY W. SUMNEY, EXECUTIVE DIRECTOR

SEMICONDUCTOR RESEARCH CORPORATION

I am pleased to have this opportunity to testify before this subcommittee today. I am Larry Sumney, Executive Director of the Semiconductor Research Corporation, an organization formed by semiconductor companies to sponsor university research. Prior to this I was the Director of the Very High Speed Integrated Circuits (VHSIC) Program in the Office of the Under Secretary of Defense for Research and Engineering. The VHSIC Program was directed by Congress to be a tri-Service program with central management and direction by OSD.

The earliest semiconductor development work in this country was directed at military systems, and semiconductors appeared in the Minuteman system before they were commercially exploited. As new developments in the technology occurred, however, they began to appear first in commercial applications and then were adapted to military use. It became apparent that commercial developments were drifting further and further away from military usefulness. Here is an integrated circuit chip. Early circuits performed only a few functions. They could be chosen and connected together in different combinations to do, in one case, a civilian job or in another, a military job. The trend of advancing technology, however, has been to put more and more functions on each chip, and the commercial combinations of functions became less and less adaptable to military use. The VHSIC Program was inaugurated to develop the technology for putting even more capability on a chip, but in a way directed at military problems, such as advanced signal processing.

As Director of the VHSIC Program, I was immediately faced by opposed objectives. On the one hand, by vigorously pursuing the program, with a number of selected contractors seeking to make large advances in technology and targeting useful military systems, and by rapidly disseminating the technology throughout the U.S. semiconductor industry and military system industry, I could have highly advanced electronics in the field, in very capable systems, long before our potential adversaries. We would once again and dramatically widen our capability lead which we critically need to offset our numerical inferiority.

On the other hand, I recognized that our lead could be narrowed, or lost, if this technology were to fall into the hands of our adversaries. Indeed, the Congress stipulated that the technology be protected under the International Traffic in Arms Regulations, the ITAR, under Munitions Control. The inherent problem is that the steps necessary for technology control are those that slow development of technology and impede its dissemination throughout U.S. industry. In other words, whatever we do to slow our adversaries' acquisition of our technology also slows our own development.

I spent a great deal of time, effort and money to attack this problem. I enlisted the best experts I could find to help me. The result was a carefully crafted set of guidelines on controlling various facets of the hardware and technology to minimize the impact on the program development rate while giving adequate protection to the technology. For example, we discovered early that classifying the process lines would introduce program slippage and substantial cost growth, because it would require building new, dedicated production facilities. We looked carefully at every aspect of the program, and the technology, and selected the appropriate control mechanisms from among National Security Classification; the ITAR, administered by the Office of Munitions Control of the Department of State; the Export Administration Regulations, administered by the Department of Commerce; and, no control. The result was a very balanced system of controls that would achieve our objectives. I believe that the VHSIC Program Office has since refined our control stystem, but I have not seen the details.

Let me elaborate, for a moment, on the control mechanisms. Classification covers the smallest body of hardware and technology and is the strongest control. The key to classification is denying access to classified matter. This leads to a large system of guards, locks, fences, badges, certifications, background investigations and the like to prevent unauthorized access.

The ITAR controls a larger body of technology and is not as strong a control as classification. The ITAR does not try to focus on denying access. It concentrates instead on prohibiting disclosure. Thus, the system of guards, locks, etc. is not needed. The ITAR stipulates that the technology should not be exported or deliberately disclosed to foreigners.

The next biggest body of technology and hardware is controlled by the Export Administration Regulations, the EAR. The technology controls of the EAR are currently quite weak, but the hardware controls are good.

The largest body of data is not controlled at all.

We recognized that the basic research aspects of the program should not be controlled. We made every effort to assure the university participants that the controls we were imposing on advanced development did not apply to their basic research.

We determined that the Export Administration Regulations were quite well adapted to controlling the manufacturing and test equipment, as long as license applications were subject to Defense review. We were also satisfied that the EAR would control commercial chips approximating VHSIC capability.

We chose to apply ITAR controls to the VHSIC chips themselves and to their associated technical data. This position was negotiated with State. Finally, we held out the option of classifying certain chips and their technical data in the future, if we were to determine that they could reveal critical system parameters.

The guidance was issued and all program participants were thoroughly briefed on its application.

As with all balancing decisions there are always those who argue that what you thought was the middle is not, and that you are either too hard or too soft. This was no exception. One constituency argued that only ITAR should apply, and then only in the narrowest possible interpretation to production chips themselves. The other declared equally vehemently that we should classify the whole program. I understand that the argument still rages today.

Let me characterize these two constituencies. The minimum control group generally comes from engineers and scientists long accustomed to no control on their technical efforts. Even when they sit in classified facilities they find no intrusion into their research, design and development work. They often appear to believe that technology rises worldwide, like an ocean tide. They view controls only as something that unnecessarily impedes their work.

The classification group is genuinely concerned with keeping our technology out of adversary hands. They tend to come from the fields of international affairs, foreign affairs, economics and law. They are in no position to assess the technology or the effects of their suggestions on the work of technologists, manufacturers and the technical community. They argue from an ideology.

Gentlemen, to take either of these extreme positions would be a grievous mistake. We cannot put our most advanced technology up for grabs by our adversaries. Nor should we bring the program to a grinding halt by overzealous classification. The current guidance is working; the program is on schedule. The Government is already in a position to offer specifications for VHSIC chips to military system and subsystem houses so that they can begin to combine them into new weapons systems. It isn't broke. Let's not try to fix it.

PREPARED STATEMENT OF WILLIAM SCHNEIDER, JR.
UNDER SECRETARY OF STATE FOR SECURITY ASSISTANCE, SCIENCE AND TECHNOLOGY

I would like to thank the members of this Subcommittee for providing me the opportunity to appear today and to present the views of the State Department on four questions: 1) the place of the Department in the U.S. Government's overall technology transfer program, 2) its role in the on-going COCOM List Review, 3) its assessment of the effectiveness of COCOM as an organization, and 4) its actions in the recent highly-publicized computer diversion through South Africa, West Germany, and Sweden.

State's Role in US Technology Transfer Programs

My predecessor James L. Buckley took up his State appointment in 1981 determined to make the Department and, indeed, the Executive Branch more effective in stemming the flow of Western strategic technology to the Soviet Union and its allies.

His principal executive action to this end was to create the Senior Interagency Group on the Transfer of Strategic Technology. The object of this exercise was to bring together, at the policy level, all U.S. Government agencies with strategic technology programs or interests for a coordinated effort on the issue. The SIG was established in the middle of 1982. I took over chairmanship in August of that year when Mr.Buckley took another position in the Administration.

The Group has 18 agencies or organizations as members: State, Commerce, Defense (OSD & JCS), Treasury, Justice, Energy, CIA, NSC, ACDA, CUSTOMS, FBI, NASA, NSA, OMB, OVP, OSTP, UNA and USTR. One feature of the group's membership deserves special note. We have endeavored to see that the sections of these agencies that have primary action or policy responsibility have access to the group regardless of rank. For example, Customs is represented by the Commissioner and his alternate is the Director of Operation Exodus. The FBI, following the same principle, is represented by the Assistant Director for Counterintelligence and his alternate is the Director of the Technology Transfer Unit. This has been a successful method of organization because it has produced regular contact among all key senior officials who work on any aspect of the strategic transfer problem.

Prior to the formation of the SIG, there was already an increasing amount of activity within the Executive Branch on the technology transfer issue, but there was no day-to-day focal point for organizational coherence and the setting of priorities. It was this very lack of a coordinating center that made effective action difficult during the last year of the Carter Administration when its policies, principally after Afghanistan, began to turn in the direction advocated then by President Reagan and pursued now by his Administration.

The Senior Interagency Group had at its creation, and still has, several key objectives:

1. To raise the level of priority given to the technology transfer issue within all relevant USG agencies. It is worth noting that the technology transfer question seldom received senior-level attention in the Administrations of the 1970s. Now, through the actions of the President, the various Cabinet secretaries, and the SIG, this problem is a thing of the past.

2. To take the overview on the issue for the Executive Branch and to set priorities accordingly. The SIG approaches the technology transfer problem as simultaneously a domestic and an international issue. A principal theme of its activities is to produce the best possible U.S. control program in order to use that as an example in persuading other countries to strengthen their own efforts.

3. To initiate new projects where necessary and to see that implementation and follow-up occurs in all U.S. initiatives. In taking the overview, the SIG has found many loopholes and weaknesses in our own system and set corrective efforts in motion. In this respect, the SIG has filled in the gaps between the programs of the major agencies and has endeavored, with some success, to keep various initiatives from falling between the bureaucratic cracks. It has also become a key source of new ideas in how to handle the strategic transfer problem.

4. To make policy decisions. The SIG can and does make decisions on matters under its purview or elevates unresolved issues to the NSC. For example, it is presently working to ensure a unified US Government position for the up-coming COCOM computer negotiations.

5. To coordinate the activities of all relevant USG agencies as previously described.

Let me review with you now some of the substantive work of the SIG over the last two years.

Under Presidential directive, the Group has been made responsible for:

(1) U.S. efforts to strengthen COCOM,

(2) the U.S. attempt to seek embargo coverage of certain oil and gas technologies,

(3) the formulation of a directive on technology transfer policy, and

(4) the preparation of a directive on unclassified but sensitive technological information.

On its own initiative the SIG has:

(5) developed a visa policy for strategic technology cases,
(6) begun a program of public awareness vis-a-vis key U.S. audiences,
(7) initiated consultations with non-COCOM countries on strategic trade questions,
(8) sought to enhance controls on missile technology,
(9) attempted to clarify U.S. licensing policy for certain key technologies,
(10) sought to improve certain legal instruments such as extradition treaties and mutual legal assistance agreements,
(11) initiated intelligence assessments of key areas of the technology transfer problem, and
(12) placed under review the question of foreign investment and technology transfer.

The SIG has actively supported efforts to:

(13) place technology transfer as a central issue before NATO,
(14) raise the priorities of allied intelligence agencies on the issue,
(15) place special emphasis on controlling certain specific, critical products intended for the Soviet military R&D programs, and
(16) interdict illegal high technology shipments in progress.

As most of these projects are classified, it is difficult to give further details except in executive session.

State's Role in the COCOM List Review

I would like now to turn to this Administration's efforts in COCOM. First, however, let me say that the work of that body is confidential in nature as are the positions that we take there. This is a matter of long-standing policy among the allied governments. I will provide as much information here as possible. If you wish to go into greater detail, I would respectfully request that this be done in closed session.

This Administration has undertaken a major policy initiative to strengthen the multilateral system of security export controls. COCOM has been in existence since 1949 when the United States realized that it was essential to achieve a enduring understanding among the major Western industrial powers concerning trade in militarily relevant technology to the Soviet Bloc. The significance of this organization has increased over the years as the United States has come to have less and less of a monopoly in the advanced sensitive technologies of military importance. It is clear that we need the active cooperation of our allies if our own national security export controls are to be effective and if Western security as a whole is to be enhanced rather than undermined by competitive export practices among high technology nations.

State's role in implementing the Administration's policy on COCOM can be seen in several ways. First, following the President's initiative at the Ottawa Economic Summit in July 1981 seeking a senior-level allied meeting specifically focused on the technology transfer issue, State led the U.S. effort in convening the first High Level Meeting of COCOM in over a quarter of century. The January 1982 meeting has now been followed by a second in April 1983, and we expect others to follow as necessary. These meetings have become the focal point for a renewed allied commitment to work together in strengthening multilateral export controls.

Second, State and its sister agencies have pursued the mandate of the first High Level Meeting to harmonize, insofar as possible, the national licensing systems of the member states. This work has been going on with considerable success in the COCOM Subcommittee on Export Control since May of 1982.

Third, along with Customs, Commerce, and other agencies, State has pursued the agreement reached at the January 1982 High Level Meeting to improve the nationally-administered system of export control enforcement. This has resulted in extensive consultations within COCOM and bilaterally with the member governments. We are pleased to report a significantly heightened awareness of high technology export offenses among the COCOM governments and substantially improved international cooperation in this area. We believe, however, that more needs to be done to further strengthen the enforcement of the COCOM embargo, and we working vigorously to that end.

Fourth, all COCOM-related U.S. agencies have pressed for COCOM attention to the need for certain non-COCOM countries to cooperate in stemming the flow of critical technologies to the Warsaw Pact. A meeting of the Sub-committee on Export Control has recently endorsed for the first time a coordinated strategy for tackling that problem. The third-country diversion problem now has very high priority within COCOM, and we anticipate major progress in this mutual allied effort in the foreseeable future.

Fifth, in 1981-2, State organized through the Economic Defense Advisory Committee a thorough interagency review of all COCOM control lists in preparation for the COCOM List Review now underway. On the basis of this work, the United States submitted more than 100 technical proposals to strengthen and rationalize the embargo. These included proposals to control technologies of major military significance that had never before been covered by COCOM.

Since October 1982, national delegations have been negotiating on an almost daily basis the technical parameters of our and other countries' proposals. This work is not yet finished. However, we can report even now success in high priority areas such as electronic-grade silicon, printed circuit boards and their manufacturing technology, certain advanced ceramic materials, gas turbine aero-engines, selected advanced composite materials and their production processes, large floating drydocks, and spacecraft and launch vehicles. We are still working to obtain agreement in top priority areas such as computers, robotics, and other types of turbine engine technologies. We already view the 1982-4 List Review as a success. It is certainly the most thorough and comprehensive one that has ever taken place. We are looking forward to agreement on the final, difficult items within the next few months.

Your attention has been drawn to the computer negotiations, so let me turn now in greater detail to those discussions and the State Department's role in them. Computers are and have consistently been the single most complex controlled item. For lack of COCOM agreement on an updated definition in the 1978 and 1980 List Reviews, the present definition in fact goes back to 1976 and is therefore badly out of date.

In October 1982, the U.S. submitted a computer proposal to COCOM which is now under negotiation. State, Defense, Commerce, CIA, and, to a lesser extent, DOE are the agencies involved in the negotiation. As in any such process involving a complex issue, there have been legitimate differences of views among individuals and agencies. Such is invariably the case in all interagency deliberations which hammer out U.S. positions for COCOM list review negotiations -- be they for computers, robotics, or any other area of technology.

In the case of computers, these differences are being resolved. In fact, I have personally been chairing over recent months a series of policy level meetings, within the framework of the SIG, complemented by technical meetings at the working level, to arrive at a coordinated U.S. Government position prior to the May COCOM computer negotiations. We are well on our way to finalizing that position. I expect that agreement will be reached in this process by April 23, well before the commencement of the negotiations. Moreover, I believe the position we will present to COCOM in May is a reasonable one with good prospects of gaining the acceptance of our COCOM partners.

Granted, the path has been a long and arduous one -- but let us not forget that we are talking about an extremely technical and complex issue, and one which has remained unresolved since 1976. The ultimate measure of our success or failure will be the end product of the COCOM negotiations -- i.e., the new computer definition. To the extent that it strengthens the COCOM list and proves acceptable to the spectrum of government positions on the issue, we will have succeeded in our effort.

State's Assessment of COCOM's Effectiveness

COCOM is a remarkable organization in that it has existed for 35 years on the basis of a gentleman's agreement among member nations rather than on the more conventional basis of a treaty or a signed executive document. Because of its informal foundations, every member nation is therefore free to exercise its sovereign right to depart from a coordinated East-West high technology trade strategy and to engage in export sales at its own discretion. That this has seldom happened is firm affirmation that all member countries recognize the importance of the organization and its critical role in Western security. Without COCOM, competition among member nations for high technology sales to the Soviet Union and other proscribed countries would have been much more vigorous, and collectively we would have damaged ourselves seriously by stimulating these crucial, defense-oriented sectors of the Soviet economy.

The central principles of COCOM are therefore, we believe, on a secure footing. In operation, however, the organization has become frayed in several respects and this Administration has sought to correct those very weaknesses. By 1981, the control lists were outdated and did not cover certain new high technology areas of great military significance. We are repairing those deficiencies through the current list review. In addition, the coordinated national export control enforcement efforts had come to take low priority within the member states. We have reversed this trend, first by putting our own house in order and second by calling allied attention to the volume of diversions and illegal transfers and how this erodes the principal raison d'etre of the embargo itself. We have also begun to confront the crucial question of availability in and diversion through non-COCOM nations. Without attention to this problem, the emergence of new high technology nations would surely, in the long run, undermine everything that COCOM is attempting to do. Lastly, we are now turning our efforts, with the aid of Congress, to weaknesses in the infrastructure of COCOM, namely, the need for expanded quarters, new equipment, additional personnel for the secretariat, and an increased budget.

Several of our corrective initiatives are, of course, currently in mid-stream, but we are decidedly pleased with the results to date.

State's Role in the VAX Computer Case

In closing, let me address your question of State's role in the recent computer diversion case through South Africa, West Germany, and Sweden. License applications for computers destined for Free World end-users are referred by Commerce to various agencies depending on the country of destination, the size of the computer, and the intended end-use. The VAX computer application in this case listed South Africa as the final destination. With regard to South Africa, the State Department has a review role in license applications 1) for advanced computers to certain Apartheid-related end-users, 2) for all computers above a processing data rate of 1000, and 3) for certain types of computers of nuclear concern which are routinely referred to the State-chaired interagency Sub-group on Nuclear Export Coordination. In the VAX case, the application did not fall into any of these categories and therefore was not referred to State for a recommendation.

Commerce sought pre-licensing and post-shipment checks from the Consulate General in Cape Town between 1980 and 1983, and the end-user, the Microelectronics Research Institute, was given a clean bill of health at the time. It is important to note here that the responsibility for keeping end-user records lies with the Commerce Department. Also pre-licensing and post-shipment checks are conducted around the world variously by State, Commerce, and Customs officers on behalf of Commerce.

During the course of the interdiction of the computer in West Germany and Sweden, State personnel played key roles in explaining the U.S. Government's interest in the matter and in negotiating the recovery of the equipment. Both governments were outstandingly cooperative in taking actions under their laws which led to the expeditious return of the illegal items.

PREPARED STATEMENT OF RICHARD N. PERLE

ASSISTANT SECRETARY OF DEFENSE
FOR
INTERNATIONAL SECURITY POLICY

Mr. Chairman:

I welcome the opportunity to appear before this Committee today to discuss the role of the Department of Defense, and in particular the participation of the Office of the Under Secretary of Defense for Policy, in seeking to control the dangerous transfer of militarily useful high technology from the West to the Soviet Union and the Soviet Bloc. Over the past several years, this Committee has made important contributions to increasing public awareness of the threat to our national security arising from illicit trade with the Soviet Bloc states. Moreover, the Committee made certain recommendations, many of which have been adopted and have resulted in a stronger, more effective program. This hearing affords us an opportunity to not only address some specific concerns of the Committee, but also a chance to report on our progress thus far and show how we have responded to the Committee's recommendations for the development of an efficient and effective technology transfer control program.

Before going into these points, I would like to place in proper perspective the "national security role" of the Department of Defense in the interagency fora.

THE NATIONAL SECURITY ROLE OF DEFENSE IN INTERAGENCY FORA

In the course of your hearings in 1982, Dr. Jack Vorona of the Defense Intelligence Agency testified:

> -- The U.S. R&D establishment is viewed by the Soviets as a mother lode of important and frequently openly available (science and technology) information. In fact, they tap into it so frequently that one must wonder if they regard U.S. R&D as their own national asset. They have enjoyed great success in this endeavor with minimal effort, primarily because, as a nation, we lack the awareness of what they are all about.

There is little doubt as to the significance of the transfer of western technology to the Soviet military. Put succinctly, the Soviets save billions of dollars and at least five years in their R&D cycle; tremendously reduce the risk of ineffective R&D and costs of plant modernization; and develop countermeasures to our existing and even anticipated defense systems at a much faster rate. The Department of Defense, therefore, helps to develop and manage United States export control policy because the erosion of our technological lead through illicit transfers directly threatens our ability to deter Soviet aggression.

The export control process is inherently, and quite rightly, an interagency one. Each agency contributes its prescribed statutory expertise and perspective to this iterative interagency process. For example, under the Export Administration Act (EAA), the Department of State is vested with the role of leading U.S. international negotiating teams based on substantive guidance agreed to and provided by other agencies. In addition, State and Commerce are responsible for all export controls instituted for reasons of foreign policy as distinct from national security. On the other hand, whether the controls are for foreign policy or national security purposes, the Department of Commerce is responsible for export licensing. It is the Department of Defense, however, which has the expertise and is charged by the Congress in identifying militarily crritical technologies and working with other agencies to develop the national security policy aspects of export controls. If we are to meet our responsibilities to the President, the Congress and, indeed, the American people, we must ensure that United States export control policy takes full account of national defense concerns.

The Department of Defense maintains the national defense by developing and fielding adequate forces which are technologically superior to the overwhelming numerical superiority of Warsaw Pact forces. Secretary Weinberger consequently considers export controls to be an essential tool for the maintenance of our technological superiority which is, quite literally, the foundation upon which our deterrence posture rests.

THE NEW DEFENSE ROLE IN WEST-WEST TRADE

The role of the Department of Defense in the interagency process was strengthened by the recent decision of the President to extend Defense review to exports to certain free world countries. This authorization of Defense review is a direct response by the Administration to the increasingly serious threat posed by diversion of strategic technology through western countries to the Warsaw Pact.

Critics claim the problem of diversion does not exist in Free World trade, but, instead, is a problem found exclusively in West-to-East trade. Our latest initiatives to improve the multilateral COCOM and unilateral validated licensing systems for West-to-East trade has proven successful. We feel it has forced the Soviets to resort to less dependable and more costly methods of covert diversion through Free World and neutral countries in order to acquire the high technology equipment required to upgrade their military capabilities.

For example, Richard Mueller, the mastermind of many diversion cases, established more than sixty front companies in a number of Free World countries to obtain militarily critical commodities. While we cannot gauge how many people are resorting to the same tactics, increasing evidence leads us to believe that the magnitude of the Free World diversion problem is highly significant. To address this challenge, the President has directed that Defense play a greater role in West-to-West trade. The administrative and enforcement agencies will now be provided with a national security assessment by Defense of certain commodities to be exported as well as end-use and end-user checks for certain categories of equipment and technologies.

REORGANIZATION OF THE DEFENSE DEPARTMENT

Let there be no doubt that this President, this Administration and the Department of Defense consider the prevention of Soviet military exploitation of western high technology to be of the utmost importance. As a result, the Reagan Administration has chosen to give serious attention to the international security policy context of strategic trade controls. This is in direct contrast to the earlier period of detente when security and technical considerations were neglected in favor of the promotion of broad commercial and foreign policy considerations.

Indicative of this previous situation was the multiple transfer of computers and other equipment to the Kama River Plant which produced the trucks used in the Soviet invasion of Afghanistan, and the transfer of the Bryant grinders which allowed the Kremlin to develop far more accurate missile guidance systems. The transfer of the grinders illustrates the particular vulnerabilty of the United States to the transfer of high technology to the Soviet Bloc. The resulting increase in accuracy of Soviet missiles now poses a direct threat to the U.S. ICBM force, creates greater numerical and strategic assymetries in the strategic equation upon which U.S. arms control strategy is based, and undermines U.S. efforts to reach an equitable, verifiable arms reduction treaty.

To implement the President's mandate that security policy aspects of strategic trade be effectively addressed, Secretary Weinberger reorganized the Defense Department's Technology Transfer Control Program under DOD Directive 2040.2, which he signed on January 17, 1984. The development of the Defense reorganization program began in December of 1982, with a "Draft Directive" 2040.XX. 2040.XX was circulated for comment and was implemented on an interim basis for sound management reasons pending internal coordination and refinements. The "Interim Directive" was never intended to be the final word. It was recognized that further refinement would be required, but the need for reorganization was so critical we could not afford to wait until the normal fine-tuning was completed and the final directive issued.

As you know, in any reorganization of this magnitude, differences of opinion always arise. Obviously, the Department benefited from the frank exchange of opinions among the top policy makers. Had these differences not been aired, the final reorganization effort would have been deprived of constructive criticism so essential to effective management. The "Interim" Directive, therefore, served its intended purpose as a management tool which brought to the attention of policy makers revisions which were necessary to ensure the development of an efficient and effective Defense Technology Transfer Program.

The Defense Technology Transfer Control Program under 2040.2, makes explicit the Reagan Administration's belief that technology transfer has a crucial impact on our national defense. The Directive states that DOD will treat "defense related technology" as a "valuable limited national security resource, to be husbanded and invested in pursuit of national security objectives." At the same time, Defense recognizes the "importance of international trade to a strong U.S. defense industrial base" and will apply export controls in a way that "minimally interferes with the conduct of "legitimate trade and scientific endeavor."

By implementing 2040.2, Secretary Weinberger ensured that all elements of the Department of Defense are aware of, are a part of and will cooperate in furthering this goal. This Directive invests the Under Secretary for Policy, Dr. Fred Ikle, with the overall policy responsibility for the national security aspects of export controls. My office of International Security Policy manages this responsibility for Dr. Ikle. We lead the Defense team in interagency consultations as well as discussions with foreign governments. While some aspects of these discussions may be technical in nature, all are conducted in a national security policy context and, therefore, require participation by representatives from my staff. As distinguished from the management of national security policy for the Department, the Directive gives the role of developing coordinated technical and scientific recommendations to the Under Secretary for Research and Engineering.

In furtherance of the Directive's objective of effective integration of security policy and technical analysis, the Policy and Technical staffs were collocated in the Spring of 1983, to form the "Technology Security Center." The two staffs are therefore able to effect direct, continuous coordination on matters of mutual interest. In those infrequent instances when the two staffs reach an impasse, 2040.2 provides for high level consultations at my level under the aegis of the International Technology Transfer Panel and its two Subpanels on Export Control Policy and Research and Development. The panel system also provides for the formal participation of the military departments. I am the Chairman and Dr. Jim Wade, Principal Deputy to the USDR&E is the Vice-chairman of the Panel.

To date, the Panel system has successfully dealt with the new "China Policy" and continues to oversee the implementation of 2040.2. Moreover, working groups have been established under the auspices of the panel system to address technology transfer aspects of Defense research contracts, the Freedom of Information Act and scientific conferences.

The Technology Transfer Program as established under 2040.2 has coalesced policy, operational and technical personnel throughout the Department of Defense into an effective team for efficiently providing the Departments of State and Commerce with national security recommendations on the transfer of technology.

LICENSING PERFORMANCE OF DEFENSE

As part of the reorganization effort under 2040.2, my staff now has the responsibility and authority to formulate a Defense position in concert with the military departments, Research and Engineering and other appropriate Defense components, on all export license requests sent to Defense from the Departments of State and Commerce. The highest priority has been given to streamlining licensing procedures in Defense in order to provide for a more effective and responsive Technology Transfer Program.

Some licenses sent to us can be rapidly approved or denied, after a brief initial review, because of policy implications, the level of technology and the licensing history of similar equipment. The remaining cases involve more complex issues and must be staffed to the military departments and the intelligence community for detailed review. These reviews take a good part of the time allowed. Once all of these positions are forwarded to us, we meld them into a single position. The "Defense" position is then sent to the Departments of State or Commerce depending on whether it is a munitions or commodity control case.

As you know, we work with the Department of Commerce on CCL or "dual-use" cases and the Department of State on munitions license requests. Defense receives only about five percent of all dual-use export licenses from the Department of Commerce for national security review. For example, during the last four months of 1983, Defense processed 980 licenses, of which it approved 545, approved 295 with conditions, and denied 140. This translates into a Defense recommended approval rate of about 85% of licenses referred to Defense for a national security determination.

Approximately 41,000 applications for munitions export licenses are received by the State Department each year, with approximately 9,000 forwarded to us for a Defense position. From February 13, 1984, when my office assumed the responsibility described in Defense Directive 2040.2, to April 1st, 1984, Defense positions were provided on 559 cases. Of these, 307 (55%) were approved without provisos, 175 (31%) were approved with provisos such as the non-release of manufacturing or countermeasures data, and 77 (14%) led to recommendations for denial, or were returned without action due to withdrawal of the license request by the contractor or the need for additional information. Combining the first two categories provides for an approval rate of 86%.

In any discussion of time required in case processing, it must be remembered that we are dealing with technologies which could contribute substantially to Soviet military power and, in some cases, could tilt the military balance against the United States and our Allies. Once lost, through carelessness, haste or misjudgment, the benefit to our defenses of these technologies cannot be recovered.

In order, however, to increase the speed and efficiency with which we handle cases, we have implemented a computer-based system called "FORDTIS," the Foreign Disclosure Technical Information System. FORDTIS is significantly shortening the time required to process cases within Defense, by replacing much of the paper-moving and by serving as an on-line reference tool. The system has been "on-line" for some time now and we are using our experience to improve the system and assure it is user effective.

To help meet our broad peacetime responsibilities under 2040.2 and simultaneously prepare for a national emergency, the Secretary of the Navy directed, on a priority basis, the establishment of a technology transfer reserve unit in the Office of the Secretary of Defense. This unit is assigned to my Deputy Assistant Secretary for International Economic, Trade and Security Policy, Dr. Stephen D. Bryen. Upon mobilization, the members would augment my permanent staff to: help implement rapid policy adjustments in light of the then evolving roles of Allies and adversaries; interact with foreign military attaches and industrial suppliers of military equipment; and help minimize delays for all approved exports.

In the course of fulfilling their reserve duty, this group of senior Naval Intelligence Reserve personnel aids in design, quality control and analysis of FORDTIS system reports and other relevant information. In June 1983, prior to formal inauguration of the unit, the Naval Reserve Intelligence Program, Area 19, provided in less than one week, a "Tiger Team" which skillfully identified militarily critical applications of high technology oil and gas exploration and exploitation equipment. Their assistance enabled the U.S. Government to document more completely the dual-use potential of these technologies in such mission areas as: anti-submarine warfare; electronic warfare; command, control and communications, and their countermeasures; and nuclear weapons research and delivery. Pleased with the clear rationale provided, both the Departments of State and Commerce sent letters of commendation to Defense citing the significant support from this Naval Reserve Intelligence team.

DEFENSE DEPARTMENT RELATIONS WITH THE BUSINESS COMMUNITY

As an additional reorganization effort within the Department of Defense, I established in 1983 the Industry and Government Liaison Office under the Deputy Assistant Secretary for International Economic, Trade and Security Policy. Its principal mission is to increase the public (specifically the business public) awareness of the problems of technology transfer and our efforts to counter them.

In the past three years or so we have arranged for and presented literally hundreds of briefings and speeches, granted numerous electronic and printed media interviews, and had articles and other printed pieces published on the subject. Although our outreach has also been directed at and been successful with officials of foreign governments (including a large number of defense ministries and ambassadors), elected officials and officials of other government agencies, research scientists in the public and private sectors, students and the general public, most of our public awareness effort has been directed specifically at industry.

This government-business dialogue in regard to technology transfer has been expanded and made more productive in the past year. Those who have been briefed on the issue have shown a keen interest. Speakers are requested almost daily by all types of groups. As many of these engagements as possible are accepted. Moreoever, we are pleased to note that interest and a spirit of cooperation has been equally high at the working level as well as the CEO level.

Let me give you two examples of how awareness programs coupled with patriotism and a cooperative spirit result in reduced technology transfer instances. Just a few months ago, after attending a technology transfer briefing given by the Customs Service, an employee of the Teledyne Geotech company in Dallas became suspicious of an order received from the International Consulting Group in Denver. The order, for a sophisticated seismometer of the type developed at Los Alamos for monitoring nuclear explosives, was ostensibly for export to a West German firm. Teledyne became suspicious for several reasons, including the fact that the International Consulting Group did not seem to be as aware of the required licensing requirements as it should have been.

Teledyne called Customs and it was decided the shipment should be permitted to proceed. Working with Customs, and unbeknownst to International Consulting Group, Teledyne prepared two shipments: one with crates containing the seismometer and one of the same weight containing concrete. The concrete shipment was sent on its way and was seized by German authorities working with U.S. Customs. Documentation showed the crates were bound for Moscow.

Two International Consulting Group employees were arrested and pled guilty last month to one count of violation of the Arms Export Control Act and one count of violation of the Export Administration Act. The story, however, does not end there. This case led to discovery of a network of diversions dating back several years involving people in the U.S. and abroad.

In another instance, we became aware of a license application that was granted for shipment of a sensitive commodity to an end-user in a newly industrialized country suspected of selling its products to unfriendly countries. Although a valid license had been approved, the manufacturer, out of a sense of patriotic duty as a good corporate citizen, voluntarily halted the shipment until this highly sensitive matter could be resolved within the interagency process.

I digressed in order to tell you these stories to point out the importance of good business-government relations and a high level of technology transfer awareness on the part of industry. There are other success stories like these.

In 1984, we will begin a more systematic program of presenting the technology transfer story to industry representatives at both the CEO and lower management levels. Although this form of outreach has been ongoing, as I mentioned, we want to make our approach more comprehensive to all segments of U.S. industry, not just to the high technology giants and not just to industries directly involved in militarily critical technologies. This is being planned with the concept that suppliers, middlemen and exporters also form a vital part of the voluntary compliance export control network.

THE 1982 RECOMMENDATIONS OF THE COMMITTEE ON GOVERNMENT AFFAIRS, THE PERMANENT SUBCOMMITTEE ON INVESTIGATIONS

As a result of the 1982 hearings which this Committee held, five recommendations were made to improve the Defense role in the control of high technology trade. Let me note how we have responded.

First, it was recommended that the Commerce Department operate in close harmony with Defense in determining the foreign availability of commodities and technologies for control. The Department of Commerce has responsibility for establishing foreign availability under the Export Administration Act of 1979 (EAA). Defense, however, has been conducting foreign availability studies to fulfill its responsibilities to develop and maintain a Militarily Critical Technologies List under the EAA. Under Defense Directive 2040.2, DIA has the responsibility to provide foreign availability information for specific export commodities and technologies. DIA is now developing a new program for identifying foreign availability and providing automated access to this information. This project is being funded in part by my office. This is a long term project which will require several years. Defense would be prepared to make this information available to the Department of Commerce.

Second, it was suggested that Defense and the intelligence agencies should conduct a study to determine the technology lost to the Soviet Bloc. The 1982 CIA report, Soviet Acquisition of Western Technology was a good start. Moreover, the Technology Transfer Intelligence Committee (TTIC), with the active participation of the Department of Defense, has conducted several studies of loss of Western technology.

Third, the Department of Defense must overcome present fragmentation and establish a consistent and comprehensive program with regard to technology transfer and export controls. Moreover, the Secretary of Defense should define responsibilities clearly and may wish to consider a new office at a high level to oversee all technology transfer issues. The Secretary has addressed this recommendation by issuing DoD Directive 2040.2, which assigns functions to various offices and establishes the International Technology Transfer Panel to resolve differences within the Defense Department.

Fourth, the Committee recommended that the Freedom of Information Act should be amended to make it harder for the Soviet Bloc to get sensitive information. While the Freedom of Information Act is not a Defense responsibility, the Defense Authorization Act of 1984 takes some steps to meet this concern by giving the Secretary of Defense authority to withhold from public disclosure certain unclassified but sensitive technical data. The objective is to release information to qualified individuals or contractors with a bona fide need after they have signed an agreement to protect the information. Defense has drawn up an implementing Directive 5400.XX, Release of Technical Data to the Public which has been published in the Federal Register. The final version is now being written taking full account of the comments received. It would be useful to extend this authority to other agencies having possession of defense-related and space-related technical information.

Fifth, it was recommended that the U.S. representatives to NATO should inform NATO members more thoroughly on the nature of technology diversions to the Soviet Bloc and how they undermine the NATO defense effort.

In May 1981, Secretary Weinberger proposed at the NATO Defense Ministers meeting that technology transfer to the Warsaw Pact was a serious problem in which NATO should become involved. As a result, an Ad Hoc Group was formed, chaired by the Deputy Secretary General, to examine the security implications to the Alliance resulting from Warsaw Pact acquisition of militarily sensitive technologies. This effort began in October 1981, when a U.S. team of military and civilian experts, formed and led by Dr. Stephen Bryen of my office, briefed the NATO Ad Hoc Group on Soviet efforts to acquire Western militarily-relevant technologies. During the two-day meeting, the Ad Hoc Group, reinforced by representatives from national capitals, was briefed on the comprehensive and effective Soviet/Warsaw Pact organization for acquiring critical western technologies. The U.S. team stressed that the organization is orchestrated by the highest authority of the Soviet Government and uses all the transfer mechanisms available to the Warsaw Pact. This U.S. team also provided examples of specific technologies acquired from the West and the attendant improvement in Soviet military capabilities.

For six months following this presentation, representatives from the Department of Defense participated in a NATO study which resulted in NATO's acknowledgement of a Warsaw Pact organization for acquiring western militarily sensitive technologies, increased understanding of transfer mechanisms and a listing of groupings of technologies essential to the performance of NATO's military missions. This report was approved by NATO's highest body, the North Atlantic Council, in May 1982.

In addition to providing the report, the North Atlantic Council institutionalized the technology transfer issue by charging the NATO Armaments Directors Representatives (NADREPS) to meet periodically to exchange relevant information. These meetings have served to increase awareness and cooperation. The NADREPS are about to begin exchanging information on national industrial security procedures.

We are tentatively scheduled to brief them on illegal Soviet acquisition of electronic grade silicon and Soviet silicon-related technology and equipment.

Following up on Secretary Weinberger's December 1983 suggestion to the NATO Defense Planning Committee, NATO's military staff has been requested to analyze the technological shortcomings of the Warsaw Pact's military capabilities and assess the increase in its capabilities should the Warsaw Pact overcome these shortfalls. A military assessment such as this should increase awareness of the military implications of technology transfer.

As you can see, we have taken actions to discuss and consult with our NATO Allies on the issue of technology transfer and technology protection. These efforts have increased awareness, concern and cooperation in technology transfer matters. We will continue to exchange information and ideas in the NATO forum.

These five recommendations of the Committee were vigorously acted upon by Defense in the course of the Department assuming a leadership role in revising and strengthening the effort of the United States Government to stop the hemorrhage of militarily critical commodities and technologies to the Warsaw Pact. Certainly the United States Government has the greatest stake in the failure of the West to stop these illicit transfers which so directly threaten our security. Defense, therefore, has played a leadership role in bilateral and multilateral efforts to stop the transfer of militarily critical technology. In addition to the NATO forum which I have already discussed, the most critical mechanism for achieving international cooperation to control strategic trade with the Warsaw Pact is COCOM, the multilateral coordinating committee in Paris composed of all of the NATO members, minus Spain and Iceland, plus Japan.

COCOM AND THE DEPARTMENT OF DEFENSE

I would like now to discuss the achievements of the Department of Defense in COCOM related matters.

The innovations in computer and microelectronic technologies in recent years hold vitally important implications for the military balance between the Soviet Union and the Western Alliance. The preservation of a militay balance rests increasingly on the ability of the West to maximize and protect its qualitative advantage resulting from the Western technological lead over the Soviet Union. In addition, we must develop new technologies which will allow the United States to leapfrog Soviet numerical superiority. In the context of this emerging strategically competitive environment, preserving the technological lead of the West has become a critical element of the strategic equation for both the preservation of nuclear and conventional deterrence.

To preserve successfully, therefore, the western lead in critical technologies, the export control process must be a multilateral, interlocking process involving the U.S., its Allies, and friendly Third World Governments. It must include, inter alia: a strong, efficient control organization, "COCOM;" close cooperation of national customs services as well as enforcement and intelligence services; and a realistic body of controls and procedures that are enforceable.

Allow me to state for the record, it is the policy of this Administration to negotiate proposals in COCOM that are fully justified, both technically and strategically, and thereby support our mutual security interests. With this in mind, we have continued to pursue a modernization of the standards by which computers are controlled under COCOM agreement. The U.S. Government has been attempting to update these standards ever since the controls negotiated in 1974 COCOM List Review were implemented in 1976. Just as the increasing commercial utility of computers and their related technologies has made the negotiation of their multilateral control more difficult, so too has their increasing battlefield utility made it absolutely imperative that new computer controls be established.

The Ninth Division of the U.S. Army, for instance, is heavily involved in the development and practical utilization of commercial "compact" computers in the command, control and communication for the commander on the battlefield. The Army's current "Air/Land Battle Doctrine" demands that the commander rapidly collect, process and analyze battlefield information to quickly develop and execute plans before the enemy has time to react and gain an advantage. Moreover, because of their small size, weight, power, and rugged packing, these computers have high military utility for target analysis and planning, shipboard systems control, high speed communications and compact command centers. Other computer applications include: high speed burst communications; automatic status updates for the battlefield commander on the availability of weapons, ammunition, supplies and personnel; and management of maneuver control, fire support, intelligence/electronic warfare and air defense artillery.

These applications justify the deep concern which Defense has as to the control of computers, microelectronics and related technologies. If we do not develop and safeguard the technological advantage of superior rapid communication and maneuverability, our forces will not be able to defend against the overwhelming numerical superiority of the Soviets. With the continued support, however, of the Departments of State and Commerce, the upcoming COCOM negotiations can constructively address the security concerns which these and similar systems raise to western defense.

Secondly, Defense has also become alarmed that Western commercial communications switching technology has permitted the Soviet Union and its allies to improve significantly their command, control and communications systems. Despite earlier skepticism on the part of our allies, there is now a generally shared concern that existing COCOM restrictions on communications switching are insufficient to preclude export of militarily-significant communications equipment and technology to the Eastern Bloc.

This turn around was due to the efforts of Defense and other interested agencies. A careful study of Soviet and Eastern Bloc communications systems by the Defense Department has revealed that Western equipment used in their civilian networks will serve the military on a priority basis. Their "olive drab" and civilian systems are one and the same.

A third area of negotiations centers on the Spring 1983, U.S. submission of twenty-one informal proposals for controlling selected oil and gas exploration and production equipment and associated technology. The COCOM member countries agreed in principle that such technologies could be of strategic concern. In 1984, we expect that serious consideration will be given to the details of our proposals and further discussion will ensue.

In stark contrast with the importance of being the only Western multilateral organization established to control the transfer of militarily-critical high technology to the East Bloc, the Administration was shocked to find that COCOM was equipped with only the bare minimum in staff, physical facilities and equipment to carry out its extremely complicated mission.

The Secretariat of COCOM was housed in a few thousand square feet of space in an obscure, run down annex to the U.S. Embassy in Paris. Its "professional" staff consisted of a few full and part-time translators and several typists. There was no modern office or word processing equipment (a hand operated mimeograph machine was used to copy thousands of documents). The USG contributes the Secretariat's quarters as a payment in kind and the other countries contribute about three hundred thousand dollars to maintain the basic operation. Congressional staff members have visited COCOM and can verify this description.

To correct this impossible situation, this Administration is planning the expansion of quarters for the Secretariat and has begun introducing modern office equipment. Attempts to strengthen the professional staff by addition of a legal advisor to the COCOM Chairman, a small staff of technical experts, a military advisor, and a security chief (COCOM now has no comprehensive provisions for safeguarding information) are being negotiated. We believe that these changes are the minimum required to bring COCOM into the 1980's.

Lastly, this Administration has been conducting negotiations with our Allies for the past two years to strengthen export control procedures of COCOM members. We have learned from these efforts that there are wide variations on how these countries authorize exports of controlled commodities. During discussions in Paris last March, some important progress was made toward harmonizing these control procedures. Further important progress was also made to increase direct cooperation and sharing of information among customs and enforcement agencies. These achievements have set COCOM upon a new course of cooperation that was not thought possible a few years earlier.

CONCLUSION

In conclusion, let me thank you for the opportunity to explain why the Department of Defense, by its very nature, must play a crucial role in the export control process. Congress has entrusted this Department with the defense of our country. This trust requires that the Department of Defense prevent the export of goods and technologies which would strengthen our adversaries. President Reagan and Secretary Weinberger have made the necessary policy and organizational changes to give us this authority. I believe the Department has taken firm steps to implement these Presidential decisions, and we are carrying out our Congressional and Presidential mandates efficiently and effectively.

PREPARED STATEMENT OF LIONEL H. OLMER

UNDER SECRETARY OF COMMERCE FOR INTERNATIONAL TRADE

COCOM NEGOTIATIONS

MR. CHAIRMAN. I APPRECIATE THE OPPORTUNITY TO BRIEF THE COMMITTEE ON THE STATUS OF CURRENT COCOM NEGOTIATIONS FOR CONTROLLING STRATEGIC TECHNOLOGY TRANSFER TO THE SOVIET BLOC. I WILL FIRST DESCRIBE BRIEFLY OUR OVERALL STRATEGY FOR APPROACHING THESE NEGOTIATIONS. THEN I WILL FOCUS IN MORE DETAIL ON THE HISTORY OF THE NEGOTIATIONS TO CONTROL COMPUTERS. THIS APPROACH, I HOPE, WILL PUT INTO PERSPECTIVE SOME OF THE DIFFICULT ISSUES RAISED DURING INTERNATIONAL LIST NEGOTIATIONS.

THE MULTILATERAL EXPORT CONTROL SYSTEM FOR DUAL USE TECHNOLOGY THAT IS ADMINISTERED BY COCOM IS IMPLEMENTED THROUGH THE INTERNATIONAL LIST (IL). THE IL, WHICH IS ANALOGOUS TO OUR COMMODITY CONTROL LIST (CCL), ESTABLISHES THE TECHNICAL CONTROL PARAMETERS FOR EXPORTS TO THE SOVIET UNION AND ITS WARSAW PACT ALLIES. TO KEEP PACE WITH TECHNOLOGICAL DEVELOPMENTS, THIS LIST IS REVIEWED AND UPDATED AT LEAST EVERY FOUR YEARS (E.G., 1978, 1982, 1986). MOREOVER, INDIVIDUAL COMMODITIES MAY BE REVIEWED ON AN AD HOC BASIS IN RESPONSE TO NEW CIRCUMSTANCES THAT MAY ARISE. IN THESE WAYS, WE SEEK TO ENSURE THAT ONLY THOSE ITEMS WHOSE TRANSFER POSES A TRUE RISK TO COCOM'S COLLECTIVE SECURITY INTERESTS ARE CONTROLLED. THE CURRENT REVIEW OF THE IL WAS INITIATED IN 1982. WE HOPE TO COMPLETE THIS PROCESS BY THE END OF THIS YEAR.

GIVEN OUR REALIZATION THAT THE SOVIET UNION HAD BEEN ABLE TO OBTAIN AND USE ENOUGH WESTERN TECHNOLOGY TO SUBSTANTIALLY UPGRADE ITS MILITARY CAPABILITY TO THE DETRIMENT OF U.S. SECURITY INTERESTS, THE U.S. ENTERED THE PREVIOUS (1978) LIST REVIEW INTENT ON SIGNIFICANTLY REDUCING MILITARY CRITICAL TECHNOLOGY TRANSFER TO THE SOVIET BLOC. HOWEVER, THE 1978 LIST REVIEW WAS NOT SUCCESSFULLY COMPLETED BECAUSE OF DISAGREEMENTS WITHIN COCOM AS TO THE APPROPRIATE LEVELS OF TECHNOLOGY TO BE MULTILATERALLY CONTROLLED. AS A RESULT, MANY ITEMS ON THE CURRENT IL, MOST NOTABLY COMPUTERS, HAVE NOT BEEN UPDATED SINCE 1976. THE CURRENT LIST, THEREFORE, DOES NOT ADEQUATELY REFLECT RECENT MILITARY OR TECHNOLOGICAL DEVELOPMENTS.

WE ENTERED THE CURRENT (1982) LIST REVIEW WITH THE EXPRESS PURPOSE OF TIGHTENING CONTROLS ON THE TECHNOLOGIES AND COMMODITIES DETERMINED TO BE MOST SIGNIFICANT TO SOVIET MILITARY DEVELOPMENT. A NUMBER OF CATEGORIES OF PRODUCTS AND THEIR ASSOCIATED TECHNOLOGIES WERE TARGETED, SUCH AS: ROBOTICS; COMPUTERS; COMPUTERIZED TELEPHONE SWITCHING; SEMICONDUCTOR MANUFACTURING EQUIPMENT AND MATERIALS; COMPUTER CONTROLLED INSTRUMENTS; AND LASERS. IN TOTAL, THE U.S. PROPOSED TIGHTER CONTROLS OVER 76 COMMODITY ENTRIES.

AT THE OUTSET OF THE CURRENT LIST REVIEW PROCESS, OUR COCOM ALLIES RESISTED MANY OF OUR PROPOSALS FOR BOTH TECHNICAL AND POLICY REASONS. FIRST, OUR ALLIES WERE CONCERNED THAT THE WIDE AVAILABILITY OF CERTAIN CONTROLLED PRODUCTS WOULD MAKE STRINGENT CONTROLS DIFFICULT TO ENFORCE. SECOND, THEY ARGUED THAT TIGHTER CONTROLS WOULD MEAN THAT MORE APPLICATIONS WOULD HAVE TO BE PROCESSED BY COCOM'S AND INDIVIDUAL MEMBERS' ALREADY STRAINED ADMINISTRATIVE SYSTEMS. FINALLY, THEY DISAGREED WITH OUR ASSESSMENT OF THE CONTRIBUTION MADE BY WESTERN TECHNOLOGY TO SOVIET MILITARY DEVELOPMENT. I AM PLEASED TO REPORT THAT MANY OF THEIR OBJECTIONS HAVE BEEN RESOLVED DURING LONG AND DIFFICULT DISCUSSIONS AT BOTH THE TECHNICAL AND POLITICAL LEVELS. ON BALANCE, I BELIEVE OUR EFFORTS TO IDENTIFY AND TARGET FOR CONTROL SENSITIVE COMMODITIES AND TECHNOLOGY HAVE BEEN LARGELY SUCCESSFUL.

WE HAVE ALREADY ACHIEVED AGREEMENT IN COCOM FOR TIGHTER CONTROLS IN SUCH AREAS AS:

-- "SUPERALLOYS" USED IN AIRCRAFT AND WEAPONS SYSTEMS
-- EQUIPMENT DESIGNED FOR THE MANUFACTURE OR TESTING OF PRINTED CIRCUIT BOARDS
-- CERTAIN ELECTRONIC GRADE SEMICONDUCTOR COMPOUNDS AND MATERIALS

MANY OTHER ITEMS ARE IN THE FINAL STAGES OF AGREEMENT AND ARE ANTICIPATED TO TAKE EFFECT SHORTLY AFTER THE CONCLUSION OF THE LIST REVIEW SOMETIME THIS FALL.

WE ARE ALSO CONTINUING OUR EFFORTS TO REVIEW LOWER TECHNOLOGY ITEMS FOR THE PURPOSE OF DECONTROLLING THEM. FOR EXAMPLE, WE ARE PURSUING THE DECONTROL OF CERTAIN COMMONLY AVAILABLE MICROCIRCUITS AND CERTAIN CHEMICAL MATERIALS USED IN CONSUMER GOODS. DECONTROL OF NONSTRATEGIC ITEMS WILL BRING TWO IMPORTANT BENEFITS: IT WILL ENABLE US TO FOCUS OUR ENERGIES ON THOSE COMMODITIES THAT TRULY MERIT TIGHTER CONTROLS; AND IT WILL ELIMINATE AN UNWARRANTED IMPEDIMENT TO INCREASED EXPORTS OF U.S. PRODUCTS. THE COMMITTEE HAS A SPECIAL INTEREST REGARDING THE HISTORY AND STATUS OF THE CURRENT COMPUTER NEGOTIATIONS, AND I WOULD LIKE TO PROVIDE YOU WITH MY PERSPECTIVE.

AS A RESULT OF THE 1974 COCOM LIST REVIEW, REVISED CONTROLS ON COMPUTERS WERE IMPLEMENTED BY COCOM IN 1976. THESE LIMITS WERE SCHEDULED FOR REVIEW AND UPDATING DURING THE 1978 COCOM LIST REVIEW. DURING THAT REVIEW, THE U.S. PROPOSED A SIGNIFICANT TIGHTENING OF EXPORT CONTROLS ON COMPUTERS. AS I INDICATED EARLIER, THE NEGOTIATIONS BEGUN IN 1978 WERE NEVER COMPLETED AND, AS A RESULT, THE COMPUTER STANDARDS OF 1976 WERE CARRIED FORWARD.

DURING THE FIRST ROUND OF THE 1982 DISCUSSIONS, THE VARIOUS MEMBER GOVERNMENTS EXPRESSED OPPOSITION TO THE PROPOSALS PUT FORWARD BY THE U.S. ON THE GROUNDS THAT THE U.S. HAD NOT PROPERLY TAKEN ACCOUNT OF TECHNOLOGICAL ADVANCES SINCE THE LAST REVIEW AND THE SOVIET UNION'S INDIGENOUS CAPABILITY TO MANUFACTURE COMPUTERS. THEREFORE, WE DECIDED THAT, IN ORDER TO SPEED THE

PROCESS OF RESOLVING DIFFERENCES, TWO TECHNICAL SESSIONS WOULD BE HELD BY COCOM IN THE SPRING OF 1983 TO PREPARE FORMAL WORKING PAPERS TO BE USED FOR THE SECOND ROUND OF COMPUTER NEGOTIATIONS IN THE FALL OF 1983.

REGRETTABLY, LITTLE PROGRESS WAS MADE AT THE ROUND II DISCUSSIONS IN THE FALL OF 1983. IT WAS THEN DECIDED BY THE COCOM TECHNICAL COMMITTEE THAT A POLICY MEETING SHOULD BE HELD IN DECEMBER, 1983 TO RESOLVE THE MAJOR OUTSTANDING ISSUES IN THE COMPUTER NEGOTIATIONS. THE POLICY MEETING WAS PRECEDED BY A SERIES OF BILATERAL NEGOTIATIONS WITH OUR COCOM ALLIES AT WHICH THE U.S. DELEGATION EXPRESSED CONCERN OVER THE EXTENT TO WHICH THE THE SOVIET UNION WAS INTEGRATING WESTERN TECHNOLOGY INTO ITS MILITARY SYSTEMS. THE DECEMBER 1983 POLICY MEETING DID RESOLVE SEVERAL KEY POLICY ISSUES THAT HAD BEEN IMPEDING PROGRESS AT THE TECHNICAL LEVEL. FOR EXAMPLE, AGREEMENT WAS REACHED ON THE FORM OF THE SOFTWARE CONTROLS AS WELL AS ON THE PRINCIPLE THAT COCOM WOULD CONTINUE TO REVIEW COMPUTER EXPORTS ON A CASE-BY-CASE BASIS REGARDLESS OF THE TECHNICAL LEVEL.

THE NEXT ROUND OF COCOM COMPUTER NEGOTIATIONS IS SCHEDULED FOR MAY 1984. IN PREPARATION FOR THESE NEGOTIATIONS, A SERIES OF INTERAGENCY MEETINGS HAS BEEN HELD TO RESOLVE REMAINING TECHNICAL QUESTIONS. WE ARE MAKING PROGRESS TOWARDS DEVELOPING A UNIFIED POSITION THAT STANDS A GOOD CHANCE OF ACHIEVING MULTILATERAL AGREEMENT.

OUR KEY OBJECTIVE IS TIGHTENING CONTROLS ON SENSITIVE TECHNOLOGY IN A MANNER THAT WOULD BE ACCEPTABLE TO OUR COCOM PARTNERS. I AM HOPEFUL THAT WE WILL BE ABLE TO SUCCESSFULLY CONCLUDE THE UP-COMING COMPUTER NEGOTIATIONS. THIS IS OF PREEMINENT IMPORTANCE TO THE COCOM PROCESS AND TO THE MAINTENANCE OF AN EFFECTIVE MULTILATERAL REGIME THAT WILL ADEQUATELY PROTECT THE SECURITY INTERESTS OF THE U.S. AND ITS ALLIES.
THAT COMPLETES MY STATEMENT, THANKYOU.

PREPARED STATEMENT OF W. CLARK McFADDEN, II

Mr. Chairman and Members of the Subcommittee:

I am Clark McFadden, an attorney in the law firm of Verner, Liipfert, Bernhard and McPherson, Chartered. I am pleased to appear before you today on behalf of the Industry Coalition on Technology Transfer. The seven trade associations that make up the Coalition cover the spectrum of U.S. high-technology industry:

-- the Aerospace Industries Association of America, Inc.;

-- the American Electronics Association;

-- the Computer and Business Equipment Manufacturers Association;

-- the Electronic Industries Association;

-- the Scientific Apparatus Makers Association;

-- the Semiconductor Equipment and Materials Institute, Incorporated;

and

-- the Semiconductor Industry Association.

Through these Associations, the Coalition represents over 3,000 high-technology companies with 4 million employees in the United States and world-wide sales of over $250 billion.

It is natural that the companies represented in this Coalition would be deeply concerned about U.S. export controls. These companies have long supported national security export controls on commodities and technology that could significantly contribute to the military potential of any U.S. adversary. In addition, these companies, more than any other sector of U.S. business, are directly and continuously affected by national security export controls.

The Coalition was formed for a very particular purpose -- to address export control regulations. The Export Administration Regulations shape the day-to-day operations of U.S. companies and establish the actual degree of control exercised over U.S. exports. The Coalition is an attempt to create a principal focal point for industry evaluation and comment with respect to regulatory developments in U.S. export controls.

The Coalition was born out of a broadly held conviction that U.S. export control regulations increasingly fail to reflect the realities of technology transfer and the international marketplace. Perhaps more importantly, recent regulatory proposals from the Executive Branch have sent a shock wave through U.S. high-technology industry. The disturbing implications of these proposals for U.S. technology development, international competitiveness, and national security deserve a concerted industry response.

This Subcommittee has performed a valuable service in identifying many of the issues and problems regarding U.S. export controls. Even though it was formed only three months ago, the Coalition has achieved a broad consensus on several aspects of export control regulations that it believes will be useful to the Subcommittee in its examination of export control operations by the Executive Branch.

Realities of Technology Transfer and the International Marketplace

Although all U.S. exports have grown steadily over the last few decades, the increase in the export of high-technology products has been dramatic. U.S. high-technology industry exports roughly 30% of its output compared to 8% for U.S. manufacturers as a whole. High-technology exports comprise almost half of the exports from the U.S. manufacturing sector. The positive balance of trade contribution in the high-technology sector continues to grow. Productivity in high-technology industry is increasing at a rate six (6) times faster than U.S. business in general; and the inflation rate in the high-technology industry during the 1970s was only one-third (1/3) of the national average.

At the same time, the majority of our Nation's research and development is conducted by high-technology industry. Not only has this technological innovation been essential to U.S. economic growth and international trade, but it has preserved the U.S. qualitative edge in weapons systems. Indeed, the U.S. high-technology industry supplies over two-thirds (2/3) of all Defense hardware purchases for our military forces.

While the size and importance of high-technology exports has grown, the United States has lost the overwhelming production and technological superiority that it once enjoyed over the rest of the world. There is hardly a single area of advanced technology that is available exclusively in the United States. Increasingly, technology is being developed outside of the United States or through the interaction of U.S. and foreign sources. Our COCOM allies employ more scientists and engineers than the United States. While the United States remains the largest single exporter of high-technology products, the Cabinet Council on Commerce and Trade reports that foreign firms account for roughly three-quarters (3/4) of all Free World ("OECD") exports of high-technology products.

The United States is increasingly dependent upon these foreign sources for its own technology development. In electronics, semiconductors and computers, the United States must have access to foreign technology to sustain its own rate of technology development. Access to foreign markets also provides economies of scale and a crucial margin to sustain research and development. In the semiconductor manufacturing equipment industry, for example, even very small firms must have an international presence if they are to remain competitive.

Finally, there has been a fundamental change in the relationship between commercial and military technology. Defense research and production increasingly depend on commercial developments, such as high-speed integrated circuits, for their margin of superiority. In many areas, commercial technology is more dynamic and of a shorter life-cycle than military technology. The military procurement process is much less able than the commercial sector to absorb new technology quickly and efficiently.

These conditions mean that U.S. high technology is far more sensitive to the effect of export controls. In the past, the United States could tolerate inefficient, misguided and unilateral export controls. The stakes are far greater today. Export control has become much more difficult, and the economic and national security costs of imposing controls on exports to Western markets is far greater than ever before.

Despite the sweeping changes over the last decade, however, virtually no significant adjustments have been made in U.S. export regulations. Too many items are now subject to West/West licensing requirements; transactions with our friendly trading partners are overly restricted; and costly delays and complications continue for U.S. industry. In short, U.S. export controls have become more cumbersome and less effective.

Regulatory Developments

What has been the Government's response to this situation?

The Executive Branch has made a commitment to expand its enforcement efforts. Preventing illegal diversion has always had the support of responsible U.S. exporters. Since we are told that most sensitive equipment and technology reaches the East Bloc through illegal means, strong enforcement measures are appropriate.

The attention of the Coalition has been on the Government's response in another area -- the development of new export control regulations. In particular, the Coalition has concentrated on new initiatives regarding the Distribution License and technology transfer, and the failure to take account of foreign availability.

Distribution License

The Distribution License authorizes U.S. exporters to make multiple shipments of medium-level technology items over an extended period to Free World destinations. Under the Distribution License procedure there is no need to apply for and obtain a license for each individual transaction. An exporter's distribution system is pre-cleared for reliable consignees so that the U.S. exporter can make repetitive shipments quickly and predictably. As such, high-technology industry depends on the Distribution License as its principal vehicle for licensing exports.

The original purpose of the Distribution License was to streamline the licensing process. The changes to the Distribution License procedure recently proposed by the Department of Commerce, however, move in the opposite direction.

By raising the qualifying threshold for distributors and sales territories, the proposed regulations will make it more difficult for U.S. exporters to arrange their distribution and sales networks efficiently. These new requirements will deprive U.S. firms of the ability to react quickly to fast-growing and changing market demands and will unfairly penalize small- and medium-sized U.S. companies. This is the time when establishing market leadership is crucial -- an opportunity that can never be regained.

The regulations also would require distributors in countries outside of COCOM, Australia and New Zealand to provide their customer lists to the U.S. Government and obtain certifications from their customers that they will comply with U.S. export laws. Foreign customers for U.S. products will naturally resist these requirements -- they constitute an extraterritorial intrusion that in some countries will be contrary to data protection laws -- and seek to adjust their supply patterns by purchasing similar, non-U.S.-origin goods.

The proposed regulations would also exclude certain items from eligibility for export under Distribution License procedures. Items appear to be excluded without reference to commercial usefulness, foreign availability, or military significance. For example, the proposed regulations exclude photo-optical mask fabrication equipment that does not exceed the performance capabilities of similar U.S.-design equipment introduced in volume into the market before December 31, 1976. Such equipment covers items that are three to four generations older than current state-of-the-art equipment. This equipment is widely available on the commercial market in the United States, Europe and the East Bloc, and is reaching the end of its commercial life-cycle.

Perhaps most distressing to the Coalition, the proposed regulations would limit the availability and scope of the Distribution License so as to force a greater reliance on individual licenses. More case-by-case licensing will raise the competitive costs for U.S. industry and increase the burdens on an already over-loaded licensing system. By accommodating a series of transactions, bulk and multiple licensing mechanisms, such as the Distribution License, afford industry the operating flexibility it needs to compete internationally. Equally important, because they encourage the Government to assess a company's export system rather than numerous individual transactions, bulk licensing mechanisms offer the best prospect for effective national security control.

Little evidence has been presented publicly to indicate that current Distribution License procedures are ineffective. The Government did not conduct any audits prior to issuing the proposed regulations and apparently has not thoroughly reviewed the functioning of the Distribution License. Further, the proposed changes were developed and published with virtually no consultation with industry -- the one group that has significant experience with the day-to-day operations of the Distribution License.

The Coalition believes the proposed regulations are misdirected and has expressed detailed reservations to the Department of Commerce. Rather than being cut back, bulk licensing arrangements should be encouraged and depend primarily on the competence of the exporter and the reliability of the consignee.

Technology Transfers

The Defense Department and the Commerce Department have informally circulated separate regulatory proposals to impose new controls on the transfer of critical technical data to all destinations. The proposals represent a fundamental shift in U.S. export control regulations, a shift that may have been prompted in part by suggestions from industry that were first set forth in 1976 in the so-called "Bucy Report."

The Coalition supports the need for an effective mechanism to control the transfer of militarily critical technology. As with the Distribution License, however, the Coalition is concerned that the proposed controls are in many respects overreaching and unnecessary. Because the transfer of technology is the lifeblood of high-technology companies that operate abroad, the Coalition is actively working to develop its own regulatory proposal to govern technology transfer. Although the Coalition has not yet developed a detailed proposal, there is broad agreement as to the applicable principles.

First, any approach to the control of militarily critical technology must be strictly confined to items directly and significantly related to the military potential of a foreign country whose interests are adverse to U.S. national security. An overly broad definition of what is "militarily critical" leads to an unworkable proliferation of controls and an inability to control truly sensitive items.

In its current form, the Militarily Critical Technologies List ("MCTL") does not provide an appropriate compilation of militarily critical technologies, at least not for purposes of export control. The list as developed by the Defense Department is approximately 700 pages in length, is classified "Secret", and includes virtually all modern industrial technology.

Second, it would be both futile and self-defeating for the United States to develop an extensive system of controls on technologies that remain available on an uncontrolled basis from our principal allies and commercial competitors. The United States, with very few exceptions, has no monopoly on militarily critical goods and technology. U.S. exports of technology should not be restrained when uncontrolled sources of comparable technology in other Western nations will eagerly fill the demand.

To overcome the problems posed by foreign availability, common export controls for technology should be established with our COCOM allies, Australia and New Zealand. A simultaneous effort should be made to obtain agreement from friendly neutral countries on a bilateral basis to ensure, to the extent possible, that these countries monitor and control exports and re-exports in a manner consistent with the COCOM controls. Any changes in existing export controls on technology should reflect, rather than precede, agreement reached with our friends and allies.

Third, any new controls on technology transfer should be accompanied by a corresponding reduction in controls on end-products. While this concept has often been endorsed by U.S. officials, it has never become a reality.

Finally, export licensing must be sufficiently restrictive to control the exports of militarily critical technology while sufficiently flexible to allow U.S. companies to trade and compete in the Free World. We believe that this objective could best be furthered through a licensing mechanism that takes advantage of existing commercial safeguards and the shared interests of U.S. companies in protecting sensitive proprietary information.

In this context, the high-technology industry has developed the Comprehensive Operations License ("COL") as a partial response to the regulatory proposals on technology transfers. It represents a more stringent licensing mechanism for technology transfer than exists in current regulation but is designed not to cripple the Free World operations of U.S. companies. As proposed, the Comprehensive Operations License is a procedure for multiple transfers of critical technology and required keystone equipment to consignees within an exporter's established network of control. Eligible consignees would include subsidiaries, joint venturers, suppliers, and other entities that maintain contractual obligations with the exporter prohibiting disclosure or transfer of critical items.

The Comprehensive Operations License can accommodate the special characteristics of high-technology industry with a minimum of interference. It also has the advantage of allowing Government to build upon a corporation's existing network of self-imposed, self-patrolled controls on the export of sensitive technology. No company can stay in business for long without a sophisticated system of internal controls on its technical know-how.

Again, bulk licensing proposals, such as the Comprehensive Operations License, are indispensable if controls are to be increased on critical technology and U.S. industry is to maintain its technological vitality. Systems that emphasize individual-transaction licensing on the other hand will restrict the continuous flow of technical information necessary to stimulate commercial research and development and will add an overwhelming new licensing burden on the U.S. Government.

The combination of a gross expansion of the scope of technology controls and extensive new individual licensing requirements could be devastating to U.S. suppliers in Western markets. As U.S. suppliers become more constrained by export licensing requirements, they will not only lose sales of high-technology items in Western markets, but foreign customers will be inclined to purchase related, lower-technology products from non-U.S. sources -- items such as copiers, word processors, calculators, and telephone systems.

The Defense and Commerce initiatives for the control of technical data raise several specific problems as well. New restraints would be imposed on the sharing of critical technical data with foreign nationals. At a time when approximately half of the Ph.D. engineering graduates coming out of U.S. universities are foreign nationals, U.S. companies will be disqualified from employing this rich source of talent. Certain sales and operations and maintenance data would become subject to individual license approval. Such control is unnecessary on information that in Western destinations cannot, by itself, constitute critical technology nor effectively transfer technological know-how. Finally, licensing restrictions would be imposed on scientific and educational data if they were deemed to be "critical." Such export licensing requirements could have a far-reaching effect on the current process of innovation and research and development throughout the United States.

A variety of other important problems are left unresolved by the Defense and Commerce initiatives. For example, imposition of new individual license requirements on the transfer of technology or technical data are wholly impractical for the overseas maintenance and operation of major equipment such as large transport aircraft. Maintaining these aircraft requires a large and continuous flow of information. Such technical data must be made available quickly and reliably. Safety considerations alone can require as much. This is another situation where a bulk or multiple license is most desirable for all concerned.

Because of the potential impact on U.S. high-technology industry, the Coalition believes that any new technology transfer controls should be implemented only with great care and with the full participation of industry.

Foreign Availability

No subject has been more frustrating to U.S. high-technology industry than "foreign availability." When items are available to potential adversaries from uncontrolled sources, U.S. export controls only damage U.S. industry. When items are available in COCOM and, hence, are subject to multilateral control, there should be no restrictions on U.S. shipments of functionally-equivalent items to COCOM countries. In the first case, unilateral U.S. controls demonstrate a lack of realism as to what can effectively be controlled; in the latter case, they constitute a lack of confidence in our COCOM "partners" and an unfair competitive burden on U.S. industry.

The objective of the Coalition with respect to foreign availability is pragmatic -- how to enlist the Government to make foreign availability determinations consistent with the proliferation of technology in the West and existing multilateral controls? Despite elaborate and explicit statutory direction that such determinations should be made, foreign availability has simply not been reflected in U.S. export controls. It is interesting to note that in the hundreds of pages of the comprehensive Export Administration Regulations, not one provision is dedicated to a procedure for making foreign availability determinations.

The consequences of ignoring foreign availability can be painful. An example of the inability of the U.S. Government to effectively decontrol foreign-available items is the treatment of approximnately 200 generic electronic instruments that contain embedded microprocessors. These products listed under Export Commodity Control No. 4529B are controlled by the U.S. Government simply because they contain embedded microprocessors. Comparable instruments with embedded microprocessors are freely available and uncontrolled throughout the world.

Even without foreign availability, the rationale to decontrol these items is convincing. It is unlikely that a purchaser would disassemble an expensive electronic instrument to retrieve a microprocessor that costs only a few dollars. Further, microprocessors in electronic instruments are primarily used to facilitate data acquisition or other operational features and cannot generally be reprogrammed or rededicated for other uses.

Ironically, both the Department of Commerce and the Department of Defense have agreed that many of these items should be decontrolled. Virtually all license applications for electronic instruments with embedded microprocessors are approved, albeit after the U.S. manufacturer has incurred substantial licensing costs as a result of unilateral U.S. controls. Yet as recently as March 20, 1984, the Wall Street Journal reported that the Department of Commerce recently began to require U.S. export licenses for U.S.-origin heart patient monitors because they contain embedded microprocessors.

This continued unilateral U.S. control over items with embedded microprocessors has hurt U.S. industry without any benefit to the Government's export control system. In fact, wasting scarce resources on licensing these electronic instruments limits the ability of Government to effectively regulate more sensitive items.

Even more troublesome to the Coalition are the obvious trends that have developed within the administrative departments: (1) an inability to decontrol certain commodities despite clear decisions to do so; and (2) a consistent trend to increase controls despite the existence of conditions that clearly warrant decontrol of a large number of items.

The Coalition is working with U.S. export officials to focus Government resources on rendering and implementing foreign availability decisions. Part of this effort is to shift to the Government the burden of proof in foreign availability decisions, especially as they relate to COCOM. At the same time, the Coalition is attempting to strengthen industry's participation in the Government's foreign availability determinations. As in other areas of the U.S. export control system, such as the development of the MCTL or the COCOM list review, industry possesses technical and operational expertise that is unavailable from any other source.

Adequately adjusting for foreign availability could probably do more to simplify and rationalize existing U.S. export regulations than any other single measure.

Conclusion

Like any regulatory scheme, U.S. export control regulations must be periodically reevaluated. The work of the Coalition has just begun, but its initial goals are well-defined:

-- U.S. export regulations must focus on systems for control, including business proprietary systems, for exports to the West, rather than an overwhelming number of individual transactions;

-- Export controls must accommodate to the realities of international trade, including wide-spread foreign availability of items subject to U.S. controls;

-- U.S. controls should be eliminated on items that are subject to multilateral control, such as in COCOM; and

-- Industry must be assured a greater role in the formulation and implementation of U.S. export controls regulations.

By moving in accordance with these goals, the Coalition believes that U.S. high technology can be protected from potential adversaries without undermining the vitality of U.S. high-technology industry.

EXHIBIT NO. 9

[From the Washington Post, Mar. 28, 1984]

TRADE WARS

(By Rowland Evans and Robert Novak)

The White House, fresh from a bitter victory over liberal Commerce Department traders, now aims at a doubleheader trade win by defeating Senate conservatives on a completely different issue; an attempt to crimp high-tech trade with communist China on the eve of President Reagan's Peking trip.

On China trade, the president should overcome Republican conservatives in the Senate who are usually his allies. But victory there would lack the high drama of his recent decisions against Commerce Secretary Malcolm Baldrige, who wanted Assistant Secretary of Defense Richard Perle fired or muzzled as the Pentagon's sentinel on trade with communist states.

Resolution last week of the long battle between the business-dominated, trade-oriented Commerce Department and the security-minded Pentagon signaled a key move by national security adviser Robert McFarlane into the administration's trade-policy swamp. It was McFarlane who was primarily responsible for persuading President Reagan to give Perle and his boss, Secretary of Defense Caspar Weinberger, their victory over Baldrige.

Simmering warfare between commerce-hungry Baldrige, facing record trade deficits, and Perle, Weinberger's top guardian against high-tech handouts to the Soviet bloc, peaked in December. That was when an espionage coup by the Soviets was averted at the last minute: West Germany intercepted a high-powered U.S. computer system bound for Moscow.

Weinberger was immediately asked if the Pentagon had examined the computer export license "before issuing it." He said no, that was up to the Commerce Department. But he went on to say that the Pentagon must have power in the future to deny such licenses for high technology that might be illegally routed to the Soviet bloc.

That was challenge enough, but what really infuriated Baldrige and his trade officials was a background briefing given the press by a supposedly anonymous high Pentagon official the next day. The official blamed the Commerce Department for making "a very serious mistake" and for being "careless" in having approved the computer license.

The anonymous official was Perle. When Baldrige found out, he went to Weinberger and asked that Perle either be fired or relieved of his duties as the Pentagon's high-tech watchdog. Naturally, Weinberer refused. Although no word of that Baldrige-Weinberger spat has leaked until now, the climax of their struggle came late last week with McFarlane's ruling. For the last time, the Pentagon now has White-House-imposed equal say with Commerce over individual export licenses for high-tech equipment bought here by non-communist countries for possible transshipment to communist-bloc states.

As for Reagan's China trip, McFarlane's effort to clear away the land mines pits him against tougher opponents. The anti-China trade amendment to the Export Administration Act was written by Sen. Jesse Helms. In effect, it applies high-tech trade restrictions to Peking similar to those in effect against the Soviet bloc. It contradicts the "differentiation" policy espoused by Reagan after much ideological tension, a policy that treats communist China differently from the Soviet Union.

Although Senate liberals seldom agree with Helms, his amendment includes a provision designed to compel China to sign the Nuclear Non-proliferation Treaty, a litmus-test treaty for most liberals. That strengthens it. The Senate-passed bill is about to go to conference with a much different House version on regulating all U.S. trade.

The president and his advisers want final passage of the Export Administration Act before the start of Reagan's April 23 trip to China, confident that Congress will spare him the embarrassment of taking the Helms amendment with him. If McFarlane, fresh from imposing his will on the Commerce Department, can do the same with powerful Jesse Helms and his Senate allies, three years of trade chaos might end.

Exhibit No. 10

[From The Los Angeles Times, Mar. 7, 1984]

BACKWARD POLICIES RESTRICT OUR EXPORTS

(By Robert J. Samuelson)

After last year's $60-billion trade deficit, the last thing that you would expect are new restrictions on exports. Yet the government is considering tighter controls over high-technology exports. Computer and electronics firms are outraged.

Because the proposal aims to curb the flow of technology to the Soviets, the furor seems a classic confrontation between commercial and national-security interests. Actually, it shows how we unintentionally harm our most advanced industries.

The purpose of industrial policy is to smooth the transition from old industries to new, which involves adjusting to growing worldwide competition. But we cling to outmoded and exaggerated ideas of how much we can control global commerce and technology. And from these mistaken views flow a series of isolated actions that, collectively, make the shift from old to new industries more difficult.

For example, although trade protection has raised auto industry profits by permiting higher new-car prices (up about 40% between 1980 and 1983), the same high prices dampen consumer demand and employment.

The U.S. Commerce Department proposed the new export rules because it fears—reflecting Pentagon anxieties—that high-technology products with possible military uses are being diverted to the Soviet Bloc. No one favors this, nor does anyone contest the centerpiece of existing controls: the requirements for licenses on the sales of sophisticated gear to communist nations.

But now the Commerce Department wants to tighten controls on exports to non-communist nations. These are handled primarily under "distribution" licenses, which enable firms to ship continuously to overseas distributors without getting permission for each sale. Because most high-technology industries export heavily—exports amounted to one-quarter of the computer industry's 1982 sales of $36 billion—the distribution license is used widely.

The Commerce Department estimates that about 700 exporters have these licenses covering roughly 22,000 overseas distributors. Most of these are wholly owned sales subsidiaries of U.S. parent companies, but others are foreign wholesalers and foreign firms that incorporate U.S. equipment into their products. For example, a U.S. computer might be used in a French factory automation system.

The new rules would require buyers in countries except North Atlantic Treaty Organization members, Japan, Australia and New Zealand to pledge that they would not reexport high-technology equipment without U.S. approval. And there would be restrictions on U.S. exporters shipping directly to customers designated by overseas distributors.

The many small changes, computer firms say, would have a disastrous effect. Privately, one major company thinks that 25% of its non-NATO customers wouldn't sign the reexport pledge. Another firm, Data General, says that two-fifths of its exports ($284 million in 1983) might be jeopardized; foreign firms using U.S. computers in their products would substitute machines from West Germany, Japan, France and Great Britain.

Consider a French firm using Data General computers for its CAT scanner, an expensive medical device. The French company faces possible U.S. disapproval of some exports.

"Since he's got our computer designed into this product cycle, he'll be forced to comply," J. B. Stroup of Data General said. "But when he redesigns, he'll design us out."

Whatever the reliability of industry estimates—they may be inflated to influence the Commerce Department—efforts to control exports for foreign-policy purposes inevitably provoke a backlash. Foreigners resent being told what they can do with what they buy. Americans would, too. Their moral. Don't become dependent on U.S. products.

Thus our government puts our companies at a disadvantage. Sales that are lost to foreign firms have the perverse effect of eroding American economic and technological strength.

Our unhappy experiences with export and import controls spring from the misconception that we can deny the emergence of global markets. Keeping out low-priced foreign steel might protect the U.S. steel industry, but it wouldn't protect the industry's customers. Appliance and machinery manufacturers would simply become more vulnerable to imports that are made with the less expensive foreign steel.

Similarly, the global diffusion of the new commercial technologies limits the ability of U.S. export controls to keep innovations from the Soviets. The proliferation of supply sources makes control impossible. All that we can deny the Soviets are the most advanced technologies whose uses are heavily military. Our allies simply will not accept anything else.

But the prevailing philosophy is to restrict anything that might be of military use; existing rules require licensing for the simplest personal computers, which are now available worldwide. Our best defense is the Soviets' commercial isolation. Just because they can buy new technology does not mean that they can quickly assimilate it; in the West, what advances technology are competitive pressures for new products and lower costs—as process that is literally foreign to the Soviets.

The economic implications of these attitudes are sobering. Even under favorable circumstances, mature industries such as steel and automobiles cannot provide future economic growth and jobs. Their markets are growing slowly or declining; advances in technology will mean that fewer workers will be able to satisfy this stagnant demand. Only new industries can assure job growth.

Most industrial-policy advocates propose programs to "manage economic change." We need not to create new programs but to replace the old ideas that are doing too much harm.

EXHIBIT NO. 11

ADDRESS BY LIONEL H. OLMER, UNDER SECRETARY FOR INTERNATIONAL TRADE, U.S. DEPARTMENT OF COMMERCE, BEFORE THE AMERICAN CHAMBER OF COMMERCE, LONDON, ENGLAND, MARCH 8, 1984

HIGH-TECHNOLOGY: WHAT COURSE OF VITALITY AND GROWTH

World economies are shifting dramatically both in form, and in content. Once they were driven by heavy industry, today economies are being created and sustained by information and new technology. Indeed, the free world's industries are moving through a time of unprecedented changes.

Emerging from the deepest recession since the 1930s, industries now face many critical decisions that will bear heavily on their long-term competitiveness—yes, on their very survival. An often contention debate reveals a divergence of opinion among industrial countries on what are the best choices. This places pressures on our economic policies and challenges the commitment to continuing liberalization of international trade.

What are the policy choices for the 1980s? How do free trade, protectionsim and global high-technology relate to each other?

Protectionism—market access—high tech

Governments today are facing growing domestic pressure to limit foreign access to their markets. Incidentally, there are 89 separate pieces of protectionist legislation now pending before the U.S. Congress—which the Administration opposes. Most governments seem increasingly to believe that the path to higher growth and employment requires development of favored high-technology sectors. Thus, we are seeing a proliferation of government programs to promote these targeted sectors.

I was recently surprised to see an opinion poll by the Wall Street Journal which showed that European executives do not see a single European country ranking as the leading source of technology in any technological area.

This assessment contrasts sharply with the attitudes of the 1970s which portrayed Europe as making major technological gains. This shift of mood may be worrisome if it rekindles the Servan-Schreiber attitude of the sixties—that increased government action is necessary to close the technology gap.

This apparent drift toward trade and investment chauvinism must be viewed with extreme concern by government and industrial leaders. Many of our trading partners seem attracted to restricting markets—a course which, for the rapidly changing high-tech fields, usually leads to disastrous results.

Using protectionism as a targeting technique instead of focusing on the global market has retarded Europe's high-tech capabilities in some areas. It has not achieved the hoped-for results, certainly as measured by the perceptions of European executives.

In the United States, high-technology industries have been successful exactly because of exposure to competition. Corporate survival depends on the ability to design and market products which beat the competition in quality and reliability, but which cost less.

Government intervention in the form of subsidies or market protection has tended to stultify innovation—and, you know, once started subsidies are difficult to end. Let me review some disturbing developments that suggest a drift toward protectionism.

The recent EC proposal to close off trade in digital audio disks (even before it develops) by raising the tariff on sound recorders from 9.5 percent to 19 percent, concerns us because it could set a pattern for "preemptive protection" in high-tech products, and thereby discourage innovation and trade in new products: threaten the closure of potentially lucrative markets and you will choke-off creativity and intimidate risk-taking by outside competition.

Another example is the current plan by the French and German governments for mobile cellular telephones. Last November, France and Germany agreed to establish a joint cellular phone system, to start operation in 1986. The agreement started as a device to open the telecommunications market. As now written, non-French and non-German firms will be excluded.

Who will suffer the greatest damage from such agreements? First, by setting a unique standard for France and Germany different from a world standard, a businessman traveling from London to Paris will be unable to use his cellular phone. This defeats one of the chief benefits of cellular technology.

Second, by creating a unique standard, France and Germany will be forcing their firms to create products that won't have markets in the rest of the world. And believe me, the market potential is staggering.

Perhaps a more classic situation of how protectionism can hurt Europe's high-Tech sector is the 17 percent tariff on semiconductor imports from outside the EC. This tariff, aimed at helping the EC's semiconductor industry, in fact hurts Europe's computer and telecommunications industry.

By not having access to the lowest price components that could be available. European computers are disadvantaged. Indeed, the EC industry is becoming more and more dependent on Japanese producers for top-of-the-line computer hardware. In many cases, EC firms are merely marketers for Japanese products, instead of producing the hardware themselves. In certain countries on the continent this is reaching proportions I would find worrisome, were I a government planner interested in developing my country's high-tech competitiveness.

I understand that the British Government plans to press the EC to bring this tariff on semiconductors in line with the Community's 6 percent duty on computers that would be a most welcome step.

Some encouraging signs

The European Strategic Program for Research in Information Technology (ESPRIT), designed to bring European companies together to work on research in such fields as microelectronics, computer software technology and computer integrated manufacturing, has been funded at $1.3 billion over the next five years, with equal contributions from European industry and the EC budget. The budget is impressive and the objectives are high-minded.

This is an opportunity for technology-sharing, and we think it will benefit the knowledge-base of the world's technology. We understand that all incorporated firms in the EC, regardless of national origin. I repeat, regardless of national origin, will be welcome to participate. We will continue to watch this area with interest and will encourage the cooperation of EC-based U.S. multinationals who have much to contribute towards achieving research breakthroughs.

U.K. high-tech firms, we observe, are attacking world markets aggressively:

In Scotland's Silicon Glen, Rodime Ltd., makers of computer disks, has become a world class competitor. The company is a likely supplier of disks to IBM's new Winchester storage system.

Thorn EMI Information Technology, based in Hampshire, has launched a major thrust into software publishing and marketing in both Europe and the U.S.

New U.K. companies in the personal computer field are entering the U.S. market. These include Oric Products International Ltd., Juniper Cantab Ltd., and Dragon Data Ltd. And there are others.

In addition, the U.K. is taking steps to open up its telephone monopoly. Among many benefits, this will lead to improvements in productivity in the services sector, bolstering the already strong London-based banking community.

These examples of aggressive corporate strategies by the U.K.'s high-tech industrial sector are necessary to remain strong and competitive in the global marketplace—and we welcome it.

U.S. interest in Europe

Is the U.S. interested in seeing a competitive high-tech industry in Europe? The answer is "yes"—in addition to our mutual security concerns. Europe is the biggest market for U.S. products.

If Europe's domestic high-tech industry is not healthy, the U.S. would lose its best customers, and this trade flow would be lost. Moreover, American companies and American consumers know they stand to benefit from new technologies developed in Europe.

High-tech transfer

There are those who apparently believe the U.S. is restricting the flow of technology to Europe for the commercial benefit of American firms. Not so!

On a commercial basis, we understand the problem. I would like to report that America's business sector is also expressing concern to the U.S. Government, saying that the security aspects of trade are damaging U.S. foreign business relationships and prospects. So I can say that U.S. and European businessmen have a common interest on this point.

The U.S. Government is principally concerned with enforcing COCOM regulations and agreements carefully worked out between our allies. We are not trying to stop technology transfer to our allies. Nor are we encouraging economic warfare. But we are trying to balance real security concerns with the absolute need for open markets between our trading partners.

GATT-OECD

In addition to COCOM, the U.S. is using GATT and the OECD to address the trade issues of high technology goods and services.

We see this as an uphill battle. Many governments believe either that high technology products don't deserve more attention than other manufacturers, or that government support for these high growth industries—either internally or through protection at the border—is crucial to their ability to compete internationally. So, they are unwilling, so it would appear thus far, to contemplate limitations on what they consider to be national prerogatives.

We will continue to press these efforts, recognizing it will require a long-term program.

Conclusion

What course should be taken for vitality and growth of high technology?

Since World War II, U.S. trade policy has been based on a common principle for both emerging and declining sectors—that we should create conditions which allow market forces to operate freely to the maximum possible degree, in the United States and in world trade. This principle is balanced by the obligation to maintain national security and to create an environment permitting our economies to undergo structural change with as little pain as possible.

As I mentioned in my opening remarks, the free world's industrial base is moving through a time of unprecedented change. Emerging from the deepest recession since the 1930s, many critical decisions are needed. How best to accomplish the twin objectives of rationalization and modernization is best answered by private sector decision-making, and by efficient operation of free—and fair—markets.

Together, the United States and Europe have a common interest in liberalizing trade in high-technology goods so that we can reap the benefits of their economic and technological advances, and we should recognize that high-technology will pave the highway to the future for much of our international trading community.

EXHIBIT NO. 12

[From the Washington Post, Apr. 6, 1984]

SWEDISH FIRM CHARGED IN RADAR DEAL

(By Al Kamen)

Federal prosecutors filed criminal charges yesterday against a major Swedish electronics firm for illegally selling the Soviet Union a highly sophisticated radar system with important military applications in the last 1970s.

The company bought parts for the system in the United States and allegedly forwarded them to the Soviets in violation of a license from the Commerce Department.

The shipments, which one official called "one of the most serious diversions" of military technology ever to the Soviets took place from 1977 through 1980. They substantially increased the ability of the Soviet Union to defend itself against manned bombers and to coordinate air attacks on western Europe, according to Pentagon officials.

The prohibited equipment, some of which allegedly was secretly smuggled by hand to the Soviet Union, was sold Datasaab Contracting AB, which at the time was half owned by the Swedish government.

The sales, made in violation of U.S. export control laws, were discovered by U.S. officials in July 1980. This touched off a two-year U.S. investigation and a sharp dispute between this county and determinedly neutral Sweden.

The sales also were a major topic of discussion between Defense Secretary Caspar W. Weinberger and his Swedish counterpart during Weinberger's October 1981 visit to Sweden. The radar sale furor derailed for months a request by Sweden for American engines and missiles for its new fighter planes.

The criminal charges made yesterday against Datasaab are said to be the first brought in the United States against a foreign company for violating U.S. export control laws. Such violations have become an important issue for the Reagan administration. The charges were filed in the form of an information, which is a standard procedure when prosecutors expect defendants to plead guilty.

Foreign corporations are normally beyond the reach of U.S. laws, but corporations violating export control laws can be barred from future trading with U.S. companies. In the case of Datasaab and its now-parent company, the giant electronics firm of LM. Ericsson, a department from U.S. trade would have drastic economic effects.

As it stands, Datasaab, which Ericsson purchased after the technology transfers were made, can be penalized five times the value of the exports involved in the particular license, which would be about $15.6 million.

Knowledgeable sources said they hope a "seven-figure" will be paid by Datasaab, and that the company will agree to take other steps to rectify the damage done.

One Pentagon official said amicable defense relations have been restored for some time with the Swedish government. "They have recognized the harm to their own neutrality" that can result by such violations of U.S. export control laws, that official said.

The Swedish government, although apparently not aware of the illegal sales, has already "compensated in tangible ways" for the radar incident, he said, citing the recent seizure by Swedish officials of a major computer system that was illegally en route to the Soviet Union.

The Soviet Union began looking to improve its air traffic control system in the early 1970s, contacting numerous American and European firms for help. By 1973, there were three serious bidders for the proposed contract: Datasaab, a French company and Sperry Rand.

Among other things the Soviets wanted, Pentagon and industry officials say, were computerized primary radar systems able to track not only planes that transmit signals—as do almost all civilian planes—but plans that do not.

Federal Aviation Administration, Commerce Department and Pentagon officials immediately objected, telling American companies they could sell the Soviets what was in place in U.S. airports, known as secondary systems, but not a primary radar system capable of tracking military planes.

Datasaab, according to two U.S. industry officials, offered the Soviets the primary system and other features prohibited by American officials.

Datasaab and the Soviet trade organization V/O Electronorgetekhnika signed an agreement in September 1975 for a complete air traffic control system for the Soviet Ministry of Civil Aviation and the national airline, Aeroflot.

Datasaab, using Swedish and European-manufactured technology, began work on the contract, but in the summer of 1977 asked the Commerce Department for a license for $3.1 million in parts that were essential to completion of the system.

The request again met stiff resistance from U.S. officials and equally strong pressure for approval from Swedish government and industry officials. Lawrence Brady, then Commerce's deputy director for export administration, said in a recent interview that there was "intense pressure from the Swedes, including a direct phone call to me from the Swedish ambassador."

But Rauer Meyer, director of export administration at the time, said the pressure "was not that unusual" although there "was a lot of anxiety" on the part of the Swedes "at that stage of the game," because "the Swedes had already gone ahead with the Soviets" and had begun work.

In November 1977 Commerce finally granted Datasaab an export license with 10 specific restrictions designed to ensure that the system could be used only for civilian air safety purposes. Datasaab agreed to the restrictions.

"This was still the period of detente and there was a legitimate concern for air safety in Moscow," Meyer said.

According to the information filed yesterday by Assistant U.S. Attorney Raymond Banoun, Datasaab violated the restrictions in at least five ways, giving the "USSR technology directly applicable to military research and development efforts."

EXHIBIT NO. 13

In files.

EXHIBIT NO. 14

[From the Wall Street Journal, Apr. 9, 1984]

EXPORTING LEADERSHIP

We doubt that Athens had the kind of problems running an alliance that the U.S. has. The Athenians, or instance, would have made darn sure that Sparta didn't get hold of their microchips to build a better catapult. That times have changed is clearly evident from the debate in Congress over the Export Administration Act.

This is the law that lets the president veto sales of goods for reasons of national security. The argument about a new bill pits free marketeers against the defense-minded free marketeers. As defense-minded free marketeers, we looked to Adam Smith for guidance: "Defense is of much more importance than opulence." Manufacturers shouldn't willy-nilly sell products with military significance to the enemy; their profits don't outweigh the general costs of defense.

But U.S. manufacturers complain that others will sell the goods if they don't, and Europeans don't like the idea of the U.S. applying its rules extraterritorially. There could be a simple resolution that would lower the hackles of both groups. The U.S. and its high-tech allies could agree what can be sold and what can't. There's an atrophying group already set up to enforce such a system; the Coordinating Committee for Multilateral Export Controls, called COCOM, which includes NATO (except Spain and Iceland) and Japan.

But the effectiveness of export restrictions depends on whether exports are restricted. So far, weak COCOM rules combined with U.S. restrictions under the Export Administration Act have slowed the technology leak, but only a firmer finger can plug the dike. In 1983 alone, 147 Russian industrial spies were booted out of Western countries. Richard Perle, assistant U.S. defense secretary, recently told Europeans by satellite that 150 Soviet weapons systems use Western technology, adding billions of dollars to our joint defense costs. Just last Thursday, the U.S. charged that Datasaab Contracting A.B. of Sweden had violated an export license by shipping the Soviets parts that enable them to develop a sophisticated military radar capability.

New versions of the Export Administration Act have passed the House and Senate, and are in conference. The Senate bill would somewhat strengthen the president's hand, enabling him to blacklist imports to the U.S. from companies or countries that break the U.S. export rules by reexporting to the Soviet bloc. The House bill would let Congress into the act whenever the president wanted to apply the law overseas. The problem with both bills is the American quandary in the Western alliance: Are the allies with us or against us on this? If they're with us, extraterritorial application of U.S. rules is largely superfluous. If they're not, the rules are needed as part of the U.S. commander in chief's arsenal.

Mr. Reagan recently angered the Commerce Department—and the allies—by announcing that the Defense Department will have the right to review distribution licenses for several high-tech goods to a dozen non-Communist countries. This is the kind of change that could give COCOM more bite. Take the case of the Digital VAX 11/782.

The parts of this $2 million computer were carefully loaded into crates on a slow, circuitous boat to Russia. The machine was bought by a company in South Africa that fronts for the Soviets. Commerce Department investigators let the shipment through, then found out where the freight was headed. Three crates were stopped in Hamburg. Four others made it to Sweden, where after some diplomatic dillydallying the Olof Palme government shipped the parts back. Another eight crates are not accounted for, presumed by Commerce to be in Russia after passing through various European countries.

The VAX is a serious computer, capable of running the strategic command and control of the Russian nuclear forces. The Commerce Department has told Digital it now must file separate applications for exports to West Germany, Norway and Austria, which are now howling.

The prospects for joint U.S.-European cooperation on controling exports are not bright. The Europeans harp on the temporary U.S. sanctions in 1981 against technology for the Soviet natural-gas pipeline. They didn't like having their knuckles rapped for subsidizing the cost to Russia of the pipe, paying above-market prices and otherwise engaging in 1970s detente-style "trade" as the Russians marched into Afghanistan. That episode, however, does have a happy ending: The plan for a second strand pipeline has been scrapped.

The best way to administer exports would be for the Western nations first to agree on the principle that otherwise unavailable and strategically significant technology should not be transferred to the backward Communists. Then we should come up with a list—probably a long one—of goods that we'll keep from the Soviets. If the allies act together to stop the technology leak, there would be no issue of extraterritorial reach. This was of course the original COCOM idea. If everyone chipped in to make it work, the U.S. wouldn't be in the position of annoying its allies in order to defend the alliance.

EXHIBIT NO. 15

[From the Wall Street Journal, Mar. 14, 1984]

CROSS-BORDER FLAP: U.S. WORRIES ITS HIGH-TECH GEAR REACHES COMMUNISTS VIA CANADA

(By Eduardo Lachica)

WASHINGTON—In October U.S. Customs agents seized 18 oscilloscopes from a truck stopped for a routine border check on its way to western Canada. Investigation later showed that those electronic measuring instruments were illegally bound for the international black market in U.S. high-technology goods.

Lesley Kinney, special agent in charge of the U.S. Customs station at Blaine, Wash., is chasing 25 other cases of suspected smuggling of U.S. technology through Canada to communist countries. But he admits it's "physically impossible" to catch all the contraband that comes to that heavily traveled crossing on the U.S.-Canadian border. "There are 500 to 900 trucks that run through here every day," he says.

Incidents like these have alerted the Reagan administration to the danger of critical U.S. technology going astray through the Canadian back door. If the leakage persists, a senior administration aide warns, the U.S. may have to take the diplomatically sensitive step of revoking Canada's special exemption from laws that require export licenses for American technology. The licensing rule is designed to keep Yankee ingenuity with possible military applications from falling into the hands of China or the Soviet bloc.

R. T. McNamar, deputy treasury secretary, complained about the problem at a White House meeting last week, according to administration sources. "The Department of Commerce is concerned and so is the Justice Department," says Theodore Wu, who heads Commerce's export-compliance unit.

PROBLEM COULD BE IMMENSE

The problem is potentially immense, although nobody knows how large it actually is. But most Washington experts say the Soviet bloc is the main beneficiary. Each year about $38 billion of goods of all kinds moves from the U.S. to Canada, crossing the world's longest unfenced border.

For technology exports to every other destination, U.S. companies have to take out Commerce Department licenses. But the same companies can ship to Canada the most advanced computers and microprocessors—items the U.S. says the Soviets want badly—without leaving a paper trail through which these shipments can be monitored until they leave Canada for another country.

Canadian authorities deny charges by some U.S. officials that their export controls are lax. "We're satisfied that our control procedures are as good as those of any other country, perhaps tougher than most," insists John Kneale, a spokesman for Canada's Department of External Affairs, in Ottawa.

So far, the export-control issue has been confined to confidential exchanges between Ottawa and Washington. But it could boil up into a serious cross-border quarrel if other cases become widely publicized. A federal grand jury is currently considering issuing an indictment against a group suspected of having conveyed a sophisticated U.S. computer to the Soviet Union through Canada. Federal investigators will only say that the computer was trucked through Buffalo, N.Y., which they say is another route favored by technology pirates.

Mr. Kinney, the U.S. Customs agent, has identified two ways U.S. products could slip into Soviet hands undetected by either U.S. or Canadian authorities. Smugglers can ship them to a legitimate Canadian manufacturer or a phony freight-forwarding firm and later get these products to be reshipped to a Western European country (allowable under both U.S. and Canadian laws if no diversion attempt is detected). The European consignees, however, could turn out to be fronts for Soviet-bloc technology collectors.

From evidence turning up in his investigations, Mr. Kinney suspects that many fake forwarding-companies are being set up to smuggle goods to the Soviet bloc. "We can't get to them unless we have full Canadian cooperation," he says.

U.S. authorities say they do get help from the Canadian Customs and the Royal Canadian Mounted Police's Customs and Excise Division. But the Canadians are "brand-new to this game" and could use more budgetary resources, Mr. Kenney adds.

Washington officials don't consider Ottawa's enforcement record too impressive. Since 1981, Canada has brought only three cases under its Export Permit Act. One of these cases charges the unauthorized export of electronic and nuclear equipment, some of U.S. orgin, to Dubai and Pakistan, and is scheduled for trial next month.

CANADA'S RESPONSE

But Canada is responding to U.S. pressure to plug technology leaks. Since Jan. 1, Ottawa has required Canadian re-exporters of U.S. made goods to certify the status of their consignees in six places from which U.S. technological equipment recently has been diverted to communist countries: Switzerland, Austria, Liechtenstein, Yugoslavia, Finland and Hong Kong.

If Ottawa still harbors doubts about the consignee's credentials, it can ask for verification that the products were actually delivered to the reported buyers, Canadian officials say.

To deal with continiuning U.S. complaints, Canada plans to send a mission to Washington next month to discuss export control issues with officials at the Commerce, Treasury, Defense and State departments.

Both governments want to head off a confrontation that might force the U.S. to revoke its current licensing exemption for technology exports to Canada. Requiring U.S. firms to license high-tech exports headed for Canada would swamp the Commerce Department's already overburdened licensing bureaucracy. It might also provoke Canada to require licenses for certain exports to the U.S.

Nevertheless, the Commerce Department's Mr. Wu says the administration is studying "whether the old policy is still valid or whether any changes are appropriate." At issue are trade benefits provided by a 1941 pact that binds both countries to share defense production and permit a free exchange of technology.

The agreement was forged in the flush of North American solidarity against the threat of Nazi Germany. But times have changed. The Reagan administration is tougher on the Soviets than many of the U.S.'s allies, and neither Canada nor Western Europe is always ready to charge to Washington's bugle calls.

EXHIBIT NO. 16

[From the Washington Post, Apr. 9, 1984]

EXPORT RULES THAT WORK

Keeping strategic technology—certain advanced computers, for example—out of Soviet hands is exceedingly important. But the United States can't do it alone. It has to work in cooperation with its allies, and with other countries that are capable of producing these machines.

The struggle over strategic export controls is now going forward both in the administration and in Congress. Within the administration, the Defense Department is trying to impose its own extremely broad definitions not only on this government but on others. In Congress, a conference committee is shortly going to try to reconcile the very different Senate and House bills—the Senate having voted for an abrasive attempt to enforce American law on other countries, the House having written a more restrained bill that is also more likely to be effective.

William A. Root was the State Department's expert on this subject until last fall, when he resigned in protest against the administration's current methods. In testimony before a Senate committee last week he observed that, by the pragmatic test of getting results, American arm-twisting and a rigid insistence on American policies have been a failure. "For example," Mr. Root said, "we could have had strengthened controls on computers and on oil and gas items by now if we had given a priority to give-and-take negotiations rather than to efforts simply to persuade our allies to adopt our original proposals."

There have certainly been lapses in the embargo. A few days ago the federal government here brought criminal charges against a Swedish company for having sold American-made radar equipment to the Soviets in the late 1970s in violation of the export license. The prosecution is entirely proper. The radar is the kind of gear that ought to be sold only under licenses, and licenses need to be enforced. It might be noted that the Swedish government recognizes the need for these controls and has been providing valuable help in enforcing them.

But the administration weakens the whole structure of surveillance and enforcement when it tries to apply the rules increasingly broadly to wide ranges of goods used in the civilian economy and to technology commonly available in the industrial world. That's where the quarrels with the other governments start. The Defense Department in particular has been pushing, with some success, for definitions of strategic technology that include increasingly common commercial electronic products. But as the government expands the numbers of export licenses required, the attention given to each license will inevitably decline. As it tries to put pressure on other countries to enforce rules that they regard as impractical, it will get less help in enforcing those rules that are well justified.

EXHIBIT NO. 17

Export Policy Triggers Dispute

Fight to gain primary authority over the Defense Dept.'s technology transfer controls embroils top-level officials

By Paul Mann

Washington—A new bid by Richard N. Perle, assistant secretary of Defense for policy, to gain primary authority over the department's technology transfer policy and export control system has now embroiled the highest level of the Defense Dept. in a year-long policy dispute and spawned a fight between Perle and research and engineering executive Richard D. DeLauer.

The subject of the dispute, which came to a head last week, is an interim technology transfer policy issued last December and known as 2040.XX. DeLauer is fighting Perle's personal intercession with Defense Secretary Caspar W. Weinberger in an attempt to get 2040 placed in full effect now so that Perle's policy branch can assume the majority of power over technology transfer issues held by DeLauer.

The jurisdictional dispute has been going on for months at the staff level, but Perle's decision to bypass senior officials and appeal to Weinberger for immediate action drew an array of emphatic objections last week from DeLauer.

Perle is an advocate of stiffer export controls to prevent technology loss to the Soviet Union. In contrast, DeLauer, undersecretary for research and engineering and the Pentagon's weapons acquisition executive, is more attuned to industry's preference for less-restrictive controls. In a Dec. 13 memorandum to Perle, DeLauer accused the assistant secretary and his subordinates of circumventing Deputy Secretary W. Paul Thayer in their efforts to make 2040.XX official policy, of taking unilateral and uncoordinated actions detrimental to Defense Dept. interests and of ignoring the research and engineering office's expertise in technology transfer matters.

Specifically, DeLauer accused Perle's deputy assistant secretary for international economic, trade and security policy, Stephen D. Bryen, of "a serious misallocation of scarce resources."

This had occurred, DeLauer charged, in Bryen's creation this summer and fall of an export license administration parallel to that already in being in DeLauer's office (AW&ST Sept. 19, p. 71). Bryen created this new administration, anticipating that when 2040.XX became formal it would transfer licensing control to his office.

DeLauer assailed Bryen's parallel organization for allegedly:

- Dictating the technical parameters and departmental positions to be used in negotiating CoCom's multilateral export controls on computer hardware and software, radars, robotics and telecommunications switching. Research and engineering recommendations were ignored, DeLauer charged, and "This has resulted in politicizing the CoCom technical discussions, has raised serious questions as to the technical credibility of representatives to the negotiations and has given an inconsistent and thus confusing message to both U.S. and allied industry." CoCom is the Coordinating Committee of the western allies for controlling trade in strategic goods to Communist countries.
- Using contract technical advisers to support policy views on switching, computers and microelectronics "even though technical advice had already been provided by the office of under secretary of Defense for research and engineering."
- Dictating the release guidelines for Very High Speed Integrated Circuits (VHSIC), even though the VHSIC office of primary responsibility is research and engineering. "VHSIC contractors have already expressed their concerns indicating their potential withdrawal from the program, and raising the prospect of a class action suit," DeLauer said.

On Dec. 2, Perle sent a memorandum to DeLauer, saying he had recently discussed the status of 2040.XX with Weinberger and that Weinberger "is in full support of the policies, concepts and procedures embodied in the interim Defense Dept. directive and is prepared to place it into full effect now."

DeLauer replied Dec. 13 that, on the contrary, 2040.XX does not correctly reflect research and engineering management responsibilities for Defense Dept. technology, "including associated responsibilities for technology review and technological cooperation with foreign nations." DeLauer also countered that the proposed directive does not address changes he identified last January in a memorandum to Fred C. Ikle, under secretary of Defense for policy and Perle's superior.

DeLauer also told Perle that the interim directive "ignores the material I forwarded to you on 1 Nov. at the request of Deputy Secretary Thayer and in its present formulation is definitely not suitable for the secretary's final review and/or signature."

Displeased with the way export control administration has evolved in recent months, DeLauer now wants to reverse the partial transfer of licensing responsibility that occurred in September when Bryen's staff took over from DeLauer's office the administration of export licenses for dual-use technology—commercial technology with military applications.

The other category of licenses, for mu-

Soviets Launch U. S. Sensors on Satellite

Washington—The Soviet Union last week launched a biological spacecraft carrying at least one monkey equipped with U.S. National Aeronautics and Space Administration sensors and two other Russian space experiments that also have U.S. contributions.

The complex biological spacecraft was launched from the Soviet's northern military launch site at Plesetsk Dec. 14 into a 288 × 226km (179 × 140-mi.) orbit inclined 82.3 deg.

The U.S. has cooperated with the Soviets on three of the experiments launched on the Cosmos 1,514 spacecraft that is expected to remain aloft about 7 days. All of the NASA hardware and cooperation involved in the Russian mission has involved the Ames Research Center at Mountain View, Calif.

The cooperative experiment with the monkey involved the implantation of sensors in its carotid artery, the artery that carries blood flow to the head. The basic objective is to study the performance of the cardiovascular system in zero-g.

The U.S. also has cooperated with the Soviets on a primate biorhythm experiment being conducted with the one or more monkeys in the spacecraft.

There also are pregnant white rats on the spacecraft involved in a Soviet/U.S. study on the effect of zero-g and space radiation on rat embryos.

The U.S. participation in the Soviet space mission was one scientific exchange the Reagan Administration allowed to continue after the Soviets shot down a Korean Air Lines Boeing 747 (AW&ST Sept. 5, p. 25). The space project was not canceled because the Administration preferred international as opposed to unilateral action against the Soviets.

The Russians have promised to share their space mission data with NASA.

nitions, also was to have been transferred to Bryen's office but has not been, according to Air Force Lt. Col. Bruce R. Meiser, director of munitions control in research and engineering.

Meiser's position was to have been assumed Oct. 1 by Army Col. Robert A. Witter, director of a new munitions control directorate under Bryen and part of the parallel organization that DeLauer criticized in his Dec. 13 memorandum to Perle.

That organization also consists of an international economic policy directorate, a national disclosure/military technology cooperation directorate and a strategic trade policy directorate. The last is headed by John R. Konfala and handles CoCom list review.

DeLauer's charge that Bryen and Konfala have been dictating Defense Dept. positions in the CoCom negotiations echoed allegations last September by a senior State Dept. trade specialist who resigned as a result (AW&ST Oct. 3, p. 23). William A. Root protested alleged Defense Dept. efforts to thwart an accommodation with the CoCom allies on export controls for computers. He said that on the eve of the Sept. 15 deadline for departmental comments on a draft computer proposal, the Defense Dept. raised three objections that effectively rendered the U. S. unprepared to negotiate further revisions with the allies.

Root named Bryen as the source of Pentagon views that CoCom was an inadequate forum to negotiate the important computer item. Root contended that the Defense Dept.'s unstated objectives were to replace CoCom with a military committee and to supplant the State Dept. as the agency responsible for CoCom negotiations.

Konfala said last week that the current round of CoCom talks, about to end, had reached tentative agreement on controls for machine tools but that negotiations would continue into next year on computers. The key unresolved issues, he said, "are the extent of controls on software and on microprocessor-based computers." Talks will resume in late January and probably will run until mid-June.

A Defense Dept. official conversant with the dispute between Perle and DeLauer said Thayer had given assurances to DeLauer that Perle's intercession with Weinberger would not produce any precipitous action by the secretary regarding 2040.

He said the turf battle between the two had "taken on a dimension of a personal nature that is terrible, deplorable and unfortunate. They may be past the point where they can get together and work things out."

The current dispute, he said, was worse than a similar one in 1979 when it was decided to give export license administration authority to research and engineering. The interim 2040 policy would reverse that 1979 shift.

DeLauer told Perle he was prepared to pursue a dialogue leading to an early completion of 2040.

"We share the same concern," he said in his memorandum, "over the need to strengthen technology transfer controls. However, it is imperative that the Defense Dept. maintain a balanced perspective toward control of technology in relation to strengthening our technological base, to our armaments cooperation objectives with friendly and allied nations and to the health of our own industries. Treatment of technology transfer as an isolated issue and mixed signals on who speaks for the Defense Dept. technological community will prove highly detrimental to the larger national security concerns of the Defense Dept. and the broader interests of the U. S. government.

"Under secretary of Defense, research and engineering must retain responsibility for management of munitions license cases and the spokesman and negotiator for cooperative research, development and acquisition arrangements," he continued. "These munitions licenses control the release or sale of data, industrial assistance and military equipments to friendly and allied nations. These decisions directly affect the health and strength of DOD's industrial base."

This position also was enunciated earlier this year by a Defense Science Board task force report (AW&ST Oct. 3, p. 159). It recommended that the Defense Dept. be reorganized to give research and engineering primacy in administering international munitions licenses and objected to the 2040.XX policy as unduly favoring denial of technology transfer "rather than generating support for industrial collaboration." □

U. S., British Discuss Supersonic Joint V/STOL

Washington—U. S. and British officials will meet here in February to develop a program for an experimental supersonic short takeoff and vertical landing fighter for the year 2000 time scale.

Hans Mark, deputy administrator of the National Aeronautics and Space Administration, said last week that while the program is only in its early formative stages, the officials want to have an experimental version of the aircraft ready within three years.

Mark said the officials met in Great Britain last May to lay plans for the program. A key concern of both nations is that technology be kept secret while developing the aircraft.

He added, "It's not just the British who are concerned. We are, too."

Mark said plans now call for the aircraft to be a follow-on to the technology that produced British Aerospace's V/STOL Harriers.

He earlier had told the transportation, aviation and materials subcommittee of the House Science and Technology Committee, "We are looking toward the development of a joint U. S.-British short takeoff and vertical landing aircraft. We hope to field these by the year 2000."

British officials confirmed that preliminary discussions had been held on the program, but stressed it was in the early planning stages. A mockup of a supersonic VTOL fighter is being kept secret at the British Aerospace Corp. plant at Kingston-Upon-Thames.

Mark also told the subcommittee NASA is planning a development effort for hypersonic manned or unmanned aircraft to be dropped from the space shuttle.

"The shuttle gives us the ability to drop hypersonic airplanes," he said. "They will be designed to fit in the shuttle bay, then they will fly in the upper atmosphere."

Development of that program was important, he said, because those aircraft would operate in one area where defenses against ballistic missiles are being developed.

Mark also said some money for this project may be included in NASA's Fiscal 1985 research and development budget, but it probably will not be a specific line item in that budget.

He also told the panel U. S. aircraft manufacturers may be able to "leapfrog" foreign competition by developing tilt rotor aircraft for commuter aircraft sales.

He said that after the U. S. military builds 1,000 of those aircraft under the Joint Vertical Experimental (JVX) program, private industry would then be able to build a civil version of the aircraft.

E-3 Modification Kits

Boeing Aerospace Co. has received a $49.7 million USAF contract to provide modification kits to upgrade the avionics in 14 USAF/Boeing E-3 airborne warning and control system aircraft.

It was the second award in a program that is expected to include kits for 32 aircraft at a total value of about $130 million. A contract for the first increment, involving 11 kits, was awarded last April (AW&ST Apr. 25, p. 24).

The modifications upgrade the aircraft's radar, computer, communications and display equipment. The kits are being built by Boeing in Seattle and installation is to be performed at Tinker AFB, Okla.

EXHIBIT NO. 18

In files.

EXHIBIT NO. 19

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JOAN M. MC ENTEE, STAFF DIRECTOR AND CHIEF COUNSEL
S. SHAPIRO, MINORITY STAFF DIRECTOR AND CHIEF COUNSEL

United States Senate

COMMITTEE ON
GOVERNMENTAL AFFAIRS
SENATE PERMANENT SUBCOMMITTEE
ON INVESTIGATIONS
WASHINGTON, D.C. 20510

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S. CASS WEILAND
CHIEF COUNSEL

JAMES B. MC MAHON AND RODNEY G. SMITH
DEPUTY CHIEF COUNSEL

ELEANORE J. HILL
CHIEF COUNSEL TO THE MINORITY

March 22, 1984

The Honorable Caspar W. Weinberger
Secretary of Defense
Washington, D. C. 20301

Dear Mr. Secretary:
Cap

As you know, the Permanent Subcommittee on Investigations is continuing its inquiry into the effectiveness and efficiency of the executive branch in seeking to control the undesired transfer of militarily useful high technology from the West to the Soviet Union and Soviet Bloc. We discussed this investigation in our December 6, 1983 letter to you. We have scheduled hearings for April 3 and 5, 1984.

In connection with this inquiry, the Subcommittee will require several Department of Defense documents that have to do with technology transfer issues. They are:

--November 1, 1983 letter and attachments from Under Secretary Richard DeLauer to Assistant Secretary Richard Perle. This material was reportedly to be forwarded to Under Secretary Fred C. Ikle.

--December 2, 1983 memorandum from Mr. Perle to Mr. DeLauer.

--December 13, 1983 memorandum from Mr. DeLauer to Mr. Perle.

--January 6, 1984 memorandum from Mr. DeLauer to Mr. Ikle.

--DOD policy directives 2040.xx and 2040.2, as well as any accompanying documents.

--DOD policy directive 5129.1.

The Subcommittee staff asked for these documents orally but were advised that they could only be released upon written request by the Subcommittee Chairman and Ranking Minority Member.

In addition, we request that Richard DeLauer, Under Secretary of Defense for Research and Engineering, and Fred C. Ikle, Under Secretary of Defense for Policy, appear as witnesses to testify in these Subcommittee hearings. As to subject matter, we suggest that their testimony cover the following points:

(1) the role of their respective offices in the export control of high technology;

(2) the role of their respective offices in setting the U. S. position in COCOM negotiations;

(3) the effectiveness of COCOM and the status of current negotiations; and

(4) suggested legislative, agency and private industry recommendations.

As to the specifics of their prepared statements, members of the Subcommittee staff are available to meet with Mr. DeLauer and Mr. Ikle and their staffs in preparation for their appearances at the hearing. Eleanore Hill, Chief Counsel to the Minority, may be contacted at (202) 224-9157 for further assistance on this matter. S. Cass Weiland, Chief Counsel to the Majority, is aware of this inquiry and concurs in this request.

The Subcommittee recognizes and appreciates your continued cooperation and assistance on this project.

Sincerely,

Sam Nunn
Sam Nunn
Ranking Minority Member

Bill
William V. Roth, Jr.
Chairman

EXHIBIT NO. 20

THE DEPUTY SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

30 MAR 1984

SENATE PERMANENT
SUBCOMM ON INVESTIGATIONS
RECD MAR 30 1984
REFERRED ....
INITIAL............FILE NO......

Honorable Sam Nunn
Ranking Minority Member
Permanent Subcommittee
on Investigations
Committee on Governmental Affairs
United States Senate
Washington, D. C. 20510

Dear Senator Nunn:

This is in response to your request that Department of Defense witnesses appear before your Investigations Subcommittee to testify regarding the issue of technology transfer to the Soviet Union.

I am informed that my staff is working with yours to insure that appropriate witnesses will represent the Department on this issue.

With regard to documents requested in anticipation of the hearing, I am informed that your staff has been provided both DoD Directive 2040.2 and DoD Directive 5129.1. The other documents requested are internal working memoranda of the Department of Defense, the release of which outside the Department would be inappropriate.

As you know, the effort to restrict the flow of high technology to our adversaries has received increased attention both within the Department of Defense and the Administration as a whole. We look forward to appearing before your Subcommittee on this issue of mutual concern.

Sincerely,

William H. Taft, IV

ADDITIONAL MATERIAL

WILLIAM V. ROTH, JR., DEL., CHAIRMAN

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S. CASS WEILAND, CHIEF COUNSEL
ELEANORE J. HILL, CHIEF COUNSEL TO THE MINORITY

April 19, 1984

Dr. Ronald Finkler
Institute for Defense Analyses
1801 North Beauregard Street
Alexandria, VA 22311

Dear Dr. Finkler:

As you know this Subcommittee has recently held hearings regarding Transfer of Technology issues, focusing on COCOM and export issues.

You were interviewed by a staff member regarding your knowledge of COCOM and its functions. We are completing the hearing record on these important issues and would very much appreciate your comments to the following questions:

1. Please state briefly your position and experience with COCOM.
2. William A. Root, a former State Department employee, charged, in his resignation announcement, that there would be a "major, justified explosion of allied resentment of U.S. contempt for the COCOM process" at the October, 1983 COCOM meeting in Paris. You were at that meeting; did such an "explosion" occur? Is it your opinion that the U.S. was contemptuous of the COCOM process?
3. Mr. Root also harshly criticized the government for taking some negotiations outside the COCOM forum after October, 1983. These bilateral negotiations dealt with computer issues, among other things. Is it your position that such action by the United States was unproductive? In short, were the bilaterals effective?

Thank you for your assistance in this most important matter. We look forward to your response before April, 30.

Sincerely,

Bill Roth

William V. Roth, Jr.
Chairman

WVR,JR:dgw

cc: Senator Sam Nunn

Govt Affairs Comm.

IDA
SCIENCE AND
TECHNOLOGY DIVISION

INSTITUTE FOR DEFENSE ANALYSES
1801 N. Beauregard Street, Alexandria, Virginia 22311 • Telephone (703) 845-2000

April 30, 1984

PERM. SUBCOMMITTEE
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ON INVESTIGATIONS

The Honorable William V. Roth, Jr.
Chairman
Committee on Governmental Affairs
Senate Permanent Subcommittee on
Investigations
104 Hart Senate Office Building
Washington, DC 20510

Dear Senator Roth:

In response to your letter of inquiry of April 19, 1984, the following replies are given in the order of your request.

1. My organization, the Insitute for Defense Analyses, has been tasked by DoD since April 1968 to perform studies and analyses in support of the development of DoD's position on computer export controls. I have been responsible for this task since its inception and as such, I have participated in the development of DoD's technical positions, the defense of those positions in interagency fora and, as the principal technical advisor to the United States delegation to COCOM, the defense of the United States positions at all COCOM discussions on computer controls through December 1979. At that time our DoD sponsor requested that I undertake other higher priority tasks. In April 1982 DoD requested that I again undertake responsibility as the Senior DoD Technical Representative for the development of the DoD technical position on computers and I held that responsibility until September 15, 1983. Since April 1982 I have participated in the COCOM discussions of October/November 1982 and June, October/November and December 1983.

2. While there was the typical intense and searching discussion, there was no "explosion" at the October 1983 COCOM meeting in Paris. Most of the time was occupied with the necessary and useful discussions to finalize definitional and structural issues and to narrow the differences on technical parameters applicable to various administrative procedures. A wide measure of agreement was reached on a number of these points. However, the United States did propose, in order to save time, that certain basic issues underlying various members' positions be discussed at a higher level policy meeting preceded by bilateral discussions. While some member governments questioned the need for such a meeting, eventually all members did agree. It is my opinion that the United States was not "contemptuous of the COCOM process" but rather that the United States had raised some basic strategic concerns that had to be

considered at an appropriate policy level if they were to be resolved. Bilateral discussions are a normal part of the multilateral COCOM process, and the convening of a policy level meeting within the COCOM framework had an ample precedent in the High Level Meeting of January 1982.

3. Bilateral discussions in COCOM from the simple exchange of technical views between technicians, through policy discussions between heads of delegations, to more formal exchanges of views by senior officials in capitals, are typical and necessary to expedite the work of COCOM. The clarification of views among peers is always productive even if a specific issue is not resolved. In that sense at a minimum, the bilateral discussions held in November/December 1983 were productive. While I did not participate in any of the bilateral discussions, save one, I believe that the bilaterals were effective based on the results of the discussions at the policy level meeting. Clearly, many of the differences among the member governments were narrowed and in these areas there is the prospect of reaching agreement in the near future.

I would like to take this opportunity to support the views of Dr. Baker and Dr. Brenner who testified before Senator Nunn on April 2, 1984 concerning Mr. Root. I have worked with Mr. Root since 1968 and I have always found him to be an extremely competent and dedicated diplomat. While we have had our differences of view, he has always shown the highest level of personal integrity and dedication to advancing the positions of the United States. It has been a pleasure to work with Mr. Root and I feel his counsel will be sorely missed in COCOM and other export control matters.

Thank you for giving me the opportunity to comment on the questions that you raised and if there is any other matter in which I can be of assistance, please contact me.

Very truly yours,

Ronald A Finkler

Ronald A. Finkler

cc: Senator Sam Nunn

RETYPED VERSION

UNCLASSIFIED

DEPARTMENT OF STATE
CABLE
MARCH 1984
FROM AMERICAN CONSUL, HONG KONG
TO U. S. DEPARTMENT OF COMMERCE, WASHINGTON, D.C.
SECRETARY OF STATE, WASHINGTON, D.C.

SUBJECT: MAJOR TELECOMMUNICATIONS OPERATING COMPANY ATTACKS AMERICAN EXPORT CONTROLS

SUMMARY: IN A MEETING WITH USG OFFICIALS, SENIOR MANAGERS OF A DIVISON OF CABLE AND WIRELESS, THE DOMINANT OPERATOR OF HONG KONG'S INTERNATIONAL AND DOMESTIC TELECOMMUNICATIONS NETWORKS, MADE A CONCERTED ATTACK ON AMERICAN GOVERNMENT EXPORT CONTORLS, INDICATING THAT IN THEIR VIEW SUCH CONTROLS HAVE MADE AMERICAN COMPANIES UNRELIABLE "LAST RESORT" SUPPLIERS. DUE TO A HISTORY OF CONFUSION AND DELAYS IN THE LICENSING PROCESS, ACCORDING TO THESE MANAGERS, STEPS WERE ALREADY UNDERWAY TO PHASE OUT THE COMPANY'S TRADITIONAL RELIANCE ON AMERICAN TELECOMMUNICATIONS PRODUCTS AND TECHNOLOGY IN FAVOR OF EQUIVALENT AND MORE READILY AVAILABLE JAPANESE AND EUROPEAN EQUIPMENT, POTENTIALLY RESULTING IN THE NEAR-TERM LOSSES OF TENS OF MILLIONS OF DOLLARS IN SALES TO THE HONG KONG AND PRC MARKETS. END SUMMARY.

1. COINCIDING WITH THE CURRENT VISIT TO HONG KONG OF A GAO TEAM REVIEWING THE IMPACT AND EFFECTIVENESS OF THE US EXPORT CONTROLS PROCESS, A MEETING WAS REQUESTED BY SENIOR MANAGERS OF CABLE AND WIRELESS SYSTEMS, A 100 PERCENT OWNED SUBSIDIARY OF CABLE AND WIRELESS PLC OF BRITAIN AND THE PRINCIPAL MARKETING AND SYSTEMS DIVISION OF THE CALEB AND WIRELESS GROUP IN HONG KONG. (NOTE: CABLE AND WIRELESS (C&W) OPERATES ALL OF HONG KONG'S EXTREMELY PROFITABLE INTERNATIONAL COMMUNICATIONS LINKS THROUGH CABLE AND WIRELESS (HONG KONG) LTD. THEY ARE ALSO THE PRINCIPAL OWNER OF THE HONG KONG TELEPHONE COMPANY FOLLOWING A RECENT TAKEOVER. C&W ALSO OWN ASIADATA, AN IMPORTANT LOCAL DATA PROCESSING HOUSE. OVER THE PAST YEAR, C&W HAS TAKEN A PRE-EMINENT ROLE IN THE DEVELOPMENT OF TELECOMMUNICATIONS FACILITIES IN SOUTH CHINA BY THE IMPLEMENTATION OF TWO JOINT VENTURE COMPANIES IN THE PRC: (A) THE HUAYING COMPANY, THROUGH WHICH C&W AND THE GUANGZHOU PTT ARE DEVELOPING A NETWORK TO SERVICE THE COMMUNICATIONS NEED OF THE OFFSHORE OIL INDUSTRY; AND (B) THE SHENDA COMPANY, WHICH IS ESTABLISHING THE TELEPHONE SYSTEM IN THE SHENZHEN AND SHEKOU SPECIAL ECONOMIC ZONES NEAR HONG KONG. NEGOTIATIONS ARE CURRENTLY UNDERWAY FOR SIMILAR C AND W DEVELOPMENT PROJECTS WITH CIVIL TELECOMMUNICATIONS AUTHORITIES IN SEVERAL OTHER PROVINCES OF CHINA. THE CABLE AND WIRELESS GROUP ALSO REMAINS A MAJOR OPERATOR OF COMMUNICATIONS NEWORKS IN THE MIDDLE EAST AND A NUMBER OF COMMONWEALTH COUNTRIES, AND THE PRINCIPAL DEVELOPER OF OCEAN CABLE LINKS WORLDWIDE.)

2. CABLE AND WIRELESS SYSTEMS LTD. (CWS) IS AN IMPORTANT DISTRIBUTOR OF TELECOMMUNICATIONS PRODUCTS AND SYSTEMS ENGINEERING IN HONG KONG AND CHINA, TO MEMBER COMPANIES OF THE C&W GROUP AND OTHER HONG KONG END USERS. CURRENTLY THEY ARE THE PRINCIPAL HONG KONG DISTRIBUTOR FOR 52 FOREIGN MANUFACTURERS, 32

OF THEM AMERICAN. CWS GENERAL MANAGER CHRIS COX ADVISED THE GAO AND CONSULATE VISITORS THAT HE HAD REQUESTED THE MEETING TO ADVISE THAT "TWO YEARS AGO, WE WERE DEALING PRIMARILY WITH U.S. PRODUCTS...BUT DUE TO A SERIES OF EMBARRASSEMENTS CAUSED BY DELAYS AND CONFUSION IN EXPORT LICENSING WE HAVE MOVED AWAY FROM U.S. PRODUCTS AND BY NEXT YEAR WE MAY NOT BE TAKING ANY U.S. EQUIPMENT AT ALL."

3. COX AND HIS PRINCIPAL DIVISION MANAGERS, GLEN SMITH AND SAMUEL CHENG, PROVIDED A SERIES OF ACCOUNTS OF SPECIFIC INSTANCES WHEREBY LICENSING DELAYS HAD CAUSED THE LOSS OF BUSINESS FOR CWS. HE ALLEGED THAT THE RECORD INDICATED THAT THE LICENSING DELAYS HAD BECOME "PROGRESSIVELY WORSE" OVER THE PAST ONE TO TWO YEARS. COX CITED IN GREAT DETAIL THE CURRENT CASE OF ASIANET, A USD 200,000,000 IN-HOUSE REGIONAL COMUNICATIONS NETWORK DEVELOPED BY CWS FOR THE BANK OF AMERICA. COX ALLEGED THAT PHASE I OF THIS PROJECT IS NOW BEING HELD UP SOLELY BY DELAYS IN THE SUPPLY OF RACAL MILGO MODEMS (MAXIMUM SPEED 96000PS) WHICH ARE TO BE SENT TO HONG KONG FOR TESTING IN THE SYSTEM BEFORE IT IS INSTALLED IN VARIOUS ASIAN BANK CENTERS (NOT INCLUDING THE PRC.) THE FAILURE OF THE USG EXPEDITIOUSLY TO GRANT THE REQUIRED LICENSES, (ALLEGEDLY BECAUSE THE SYSTEM SHALL BE RE-EXPORTED FROM HONG KONG TO MULTIPLE BANK OF AMERICA CENTERS) HAVE DETERMINED CWS TO MINIMIZE THE USE OF AMERICAN PRODUCTS IN SIMILAR PROJECTS IN THE FUTURE. IN PHASE II OF THE PROJECT, ITALIAN MODEMS WILL BE PURCHASED. RACAL MILGO, LONG THE MAJOR SUPPLIER TO THE HONG KONG MARKET, WILL BE DROPPED. EMERSON (USA), FOR WHICH CWS ALLEGEDLY HAS HELD THE LARGEST SHARE OF THE REGIONAL MARKET IN UPS PRODUCTS, WILL ALSO BE DROPPED - ALTHOUGH EQUIVALENT PRODUCTS WILL CONTINUE TO BE TAKEN FROM THEIR BRITISH SUBSIDIARY, WHICH IS NOT SUBJECT TO DELAYS IN DELIVERY DUE TO EXPORT CONTROLS PROCEDURES.

4. SIMILARLY, CWS CITED DELAYS VARIOUSLY FROM SIX TO NINE MONTHS IN DELIVERY OF AMERICAN PRODUCTS FROM HARRIS AND FARINON FOR PROJECTS WITH THE CHINA MERCHANTS STEAM NAVIGATION COMPANY FOR THE SHEKOU SPECIAL ECONOMIC ZONE. CWS STATED THAT DUE TO REPEATED CHINESE CRITICISM OF THEIR "NON-PERFORMANCE" ON CONTRACTS DUE TO AMERICAN LICENSE DELAYS, THAT THEY ARE SUBSTITUTING EQUIVALENT JAPANESE AND BRITISH PRODUCTS FOR CURRENT PRC SALES.

5. COX ADVISED THAT CWS PURCHASE OF U.S. PRODUCTS, WHICH WAS CUT ABOUT 20 PER CENT FROM 1982 to 1983, SHALL BE REDUCED BY OVER 80 PER CENT DURING 1984. HE ADDED THAT WHEREAS CWS TOOK 49 PERCENT OF ITS PRODUCT FROM AMERICAN COMPANIES IN 1973, THAT FIGURE HAD FALLEN TO 23 PERCENT IN 1983. HE STATED THAT THIS WAS BECAUSE "OBTAINING TIMELY DECISIONS ON U.S. LICENSES IS TOALLY UNPREDICTABLE" -- AND CITED WIDE INCONSISTENCIES IN THE TIME REQUIRED TO OBTAIN LICENSES FOR THE SAME MODELS AND BRANDS OF AMERICAN EQUIPMENT AT DIFFERENT TIMES. A CWS POLICY OF NON-SELECTION OF AMERICAN PRODUCTS WAS IMPLEMENTED TWO WEEKS AGO. IN A CWS OFFER FOR A USD 25 MILLION GOVERMENT PROJECT IN SINGAPORE, NO AMERICAN PRODUCT WILL BE INCORPORATED, WHEREAS TWO YEARS AGO, THEY WOULD HAVE MADE UP THE BULK OF THE CWS PACKAGE. (NOTE: SINGAPORE TENDERS IMPOSE HEAVY LIQUIDATED DAMAGES FOR DELAYS IN DELIVERY --USD 25,000 PER DAY IN THIS CASE. COX STATES THAT USA PRODUCTS CONSTITUTE AN "UNACCEPTABLE RISK.")

6. CWS COMPUTER SYSTEMS MANAGER GLEN SMITH NOTED THAT THE CHINESE (PRC) CUSTOMERS REFUSED TO ACCEPT THE STATEMENT THAT DELIVERY DELAYS WERE CAUSED BY AMERICAN LICENSING DELAYS. THE CHINESE CUSTOMERS IN SUCH INSTANCES HAVE CHARGED THAT THIS WAS AN EXCUSE DESIGNED TO CONCEAL "INCOMPETENCE ON THE PART OF CWS AND/OR THE AMERICAN SUPPLIERS," SULLYING THE CWS REPUTATION IN THE PRC AS WELL AS CAUSING ACTUAL BUSINESS LOSSES.

7. SMITH ALSO NOTED THAT AMERICAN SUPPLIERS HAVE BEGUN TO REQUIRE EXTRA WEEKS OF CUSHION IN CONTRACTED DELIVERY TERMS COVERING THAT PERIOD "AFTER THE GOODS HAVE LEFT THE FACTORY AND REACHED THE PORT OF SHIPMENT" AGAINST THE CONTINGENCY OF ARBITRARY EXODUS DELAYS, FURTHER ADDING TO AN "UNPREDICTABLE" IMAGE AMONG POTENTIAL BUYERS.

8. COX LEVELED HIS GUNS ON THE RECENTLY PROPOSED CHANGES IN AMERICAN DISTRIBUTION LICENSE PROCEDURES, WHICH HE STATED WOULD BE "DEVASTATING" TO SALES OF AMERICAN COMPUTER AND TELECOMMUNICATIONS EQUIPMENT IN THE LUCRATIVE HONG KONG MARKET. COX ARGUED THAT MANY IMPORTANT OPERATIONS BASE THEIR REGIONAL SALES EFFORTS IN HONG KONG: RESTRICTIONS ON DIRECT SHIPMENTS AND THE ONEROUS REQUIREMENTS REQUIRED FOR RESHIPMENT TO MARKETS SUCH AS THE PHILIPPINES, INDONESIA, SINGAPORE AND ELSEWHERE WOULD SIMPLY RESULT IN THE NON-SELECTION OF AMERICAN PRODUCTS FOR SYSTEMS APPLICATIONS, PARTICULARLY THOSE INVOLVING MULTINATIONAL FIRMS, OIL COMPANIES, AND OTHER BLUE-CHIP END USERS, MANY OF THEM AMERICAN. COX ALSO NOTED THAT FOR STEADY SUPPLY OF SOME TECHNICAL ITEMS FOR WHICH A LARGE SCALE REQUIREMENT IS REQUIRED OVER TIME, FOR THE USE OF THEIR OWN OPERATING COMPANIES WITHIN HONG KONG, C&W COMMONLY WOULD SPREAD HIGH DOLLAR VALUE PURCHASES OF STANDARD OFF-SHELF PRODUCT OVER MONTHLY SHIPMENTS. HE NOTED THAT 12 MONTHLY SHIPMENTS, REGARDLESS OF THE HIGH DOLLAR VALUE OF EACH, WOULD NOT, UNDER THE NEWLY PROPOSED GUIDELINES FOR DISTRIBUTION LICENSES, QUALIFY CWS FOR A D.I. FOR SUCH ITEMS INTO HONG KONG. IN SUCH CASES, HE SAID, FINANCIAL AND "ABSORBABILITY" CONCERNS REQUIRED THE SPACING OUT OF SHIPMENTS, AND IF EACH SEPARATE SHIPMENT HENCEFORTH WERE SUBJECT TO THE UNPREDICTABILITY OF A SEPARATE LICENSE REVIEW CWS WOULD NOT BE ABLE EVEN TO CONSIDER SELECTION OF AMERICAN PRODUCTS. JAPANESE COMPANIES, HE STATED, "QUITE HAPPILY" SELL STANDARD PRODUCTS TO CWS ON THE BASIS OF MONTHLY CHECK-OFFS OF ORDERS PLACED A YEAR IN ADVANCE AND CONFIRMED QUARTERLY, WITH NO DELAY OR RED TAPE ASSOCIATED WITH LICENSING PROCEDURES. HE ADDED THAT MOST HONG KONG DISTRIBUTORS WOULD SHARE THE VIEW THAT THE DELAYS, UNCERTAINTIES AND ONEROUS PAPERWORK WOULD MAKE IT "TOTALLY IMPOSSIBLE TO DO BUSINESS WITH THE U.S." AND WOULD VERY QUICKLY FIND ALTERNATIVE EUROPEAN AND JAPANESE SUPPLIERS. "ONCE PEOPLE TURN AWAY AND FIND OUT THERE ARE OTHER SOURCES, THEY'RE NOT GOING TO TURN BACK," HE STATED.

9. NOTE: ACCORDING TO STATISTICS ASSEMBLED BY THE HONG KONG DEPARTMENT OF INDUSTRY, IN 1982 ALONE, HONG KONG IMPORTED USD 817 MILLION WORTH OF TELECOMMUNICATIONS AND RELATED EQUIPMENT, AND USD 457 MILLION WORTH OF OFFICE AND DATA PROCESSING EQUIPMENT. (FCSO LYN EDINGER)
LEVIN

AN EXECUTIVE SPEECH REPRINT

GENERAL ELECTRIC

Technology Transfer and National Security: A General Electric Perspective

Dr. Roland W. Schmitt

Senior Vice President
Corporate Research and Development
General Electric Company

> "An obsession with preventing leakage of our technology will cripple our ability to remain the leader in generating new technology."

The United States must remain technologically superior to any adversary in weapons and defense. We are waging a technological battle with the Soviet Union. Too often, we find that we have superior technology, but they have equal or superior weapons. They are good at extracting technology from us and good at deploying it rapidly in weapons, while we are good at generating new technology but often slow at deploying it in weapons.

To correct this imbalance, we must do two things: prevent them from getting our technology and speed up our own deployment of it. But that is like saying that to win in sports you must score a lot of points and prevent your opponent from scoring. There is more to it.

It makes a big difference, for example, whether you are playing football or basketball. The balance between offense and defense is vastly different in the two. In basketball, unlike football, you cannot indefinitely strengthen the defense without weakening the offense. So too, in winning the technological battle with the Soviets, an obsession with a defensive strategy — with preventing leakage of our technology — will cripple our offense, our ability to remain the leader in generating new technology.

The balance between a leadership strategy and a protective strategy — between offense and defense, if you will — will determine the outcome of our contest with the Soviets. A fundamental change in that balance is being proposed today. In the past, the essence of our strategy consisted of putting a fence of technology export restrictions around the Soviet Union and Eastern Bloc

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Presented at Meeting on Export Controls and Technology Policy at the National Academy of Sciences, Washington, D.C., February 14, 1984

Technology Transfer and National Security: A General Electric Perspective

countries to keep technology out. The proposed new strategy would put the fence around the United States to try to keep technology in.

Such a change in strategy has vast implications for both our national security and our international economic competitiveness. We need to look very closely at the full effects of such a change to see what the core issues relating technology and national security are. There are four core issues where differing views still exist. First, dual use — determining the extent and implications of the dual use of the same technology in both military and civilian applications. Second, military criticality — determining just how critical a technology is to improving military capability. Third, foreign availability — determining whether a technology is available from a foreign country and, if so, what we can do about the transfer of that technology to the Soviet Union. And fourth, effective transfer — determining which technology transfer mechanisms are truly effective.

As I consider these issues, I'll often draw examples from the electronics technologies of very large scale and very high speed integrated circuits — VLSI and VHSIC — because they present these issues in their most dramatic form.

Let's start with the dual use issue. It is as old as technology itself — as old as the swords and spears that the prophet Isaiah proposed pounding into plowshares and pruning hooks; as old as the mirrors that Archimedes used to edify the people of Syracuse and then allegedly turned on the Roman fleet; as old as the telescope that a couple of lens grinders in Holland invented as a means to spy on their enemies, but that turned, in the hands of Galileo, into something very different.

It wasn't so long after Galileo's day that a separation began to emerge between military telescopes and the ones used by the astronomers. Generally speaking, the breadth of dual use tends to diminish as you go from fundamental science toward final application.

Consider VLSI, for example. At the fundamental science end, the things one has to learn — diffusion constants, carrier mobilities and lifetimes, and hot electron effects, for example — are clearly generic to all possible applications. Dual use is complete. The same goes for the next stage, engineering principles. The principles behind ion implantation or a new photolithography step are clearly common to military and civilian technologies. Dual use persists to a large extent in the fabrication processes for VLSI.

By the time you reach the application stage, the chips used in military systems are likely to be distinct from the ones used in commercial products. Popular press reports to the contrary, it's unlikely that a chip taken from a video game would really serve as the critical part in a missile guidance system.

In the final stages of military deployment of technology, the Soviets have in many cases been faster than us, as I suggested earlier. At times recently they have appeared to be also getting better further upstream — further in the direction of engineering principles and fundamental science. This has given rise to the demand for more controls upstream.

I believe that these demands are misguided. Restrictions on those fundamental areas would cost us more in leadership than they would gain us in protection. The work at the fundamental end of the process provides leadership research, educational experience for students, and an invaluable forum for access to world science and technology.

One particularly dangerous proposal would put new restrictions on research by foreign nationals. A very high percentage of the doctoral degrees that are granted in U.S. schools are going to foreign nationals. The most recent study, done by the National Research Council last year, found that half of the U.S. engineering doctorates awarded in 1982 were received by foreign nationals and that 39% of all those doctorates went to foreign nationals on temporary visas.

In my view, restricting America's ability to use these people is one of the most threatening factors of all in winning the technological race, whether in military or commercial systems. Doctoral students are the seed corn of technological supremacy, and today a large, critical fraction of that seed corn is foreign born.

I can think of nothing that might do more damage to U.S. leadership in science and technology in the next few years than to cut ourselves off from this source. Foreign nationals should be encouraged to participate in fundamental science and engineering in the U.S. Even in some of the more applied fields, the need for people is so severe that I believe the State Department, the Department of Defense, and the Commerce Department should find some way to open the doors of applied research and engineering laboratories to foreign nationals who can be adequately screened.

More generally, at the fundamental science and engineering end of the technology development process, dual use is not a sufficient reason to encumber the processes of scientific and technological advancement. It is in the areas from engineering prototypes downstream to specific applications that the controls on transfer of technology between the U.S. and other non-Communist countries should be considered.

After deciding whether a technology is dual use, we next have to ask about its military criticality. The issue here centers on exactly what we mean by that term. We must avoid confusing it with military utility. A militarily critical technology gives a nation's armed forces a new capability that it did not possess before — one that is capable of changing the military balance in some area of national defense. A militarily useful technology only makes an incremental improvement, either by providing incrementally better performance or by enabling a nation to produce more of the weapons it already possesses for less money or in less time.

The Department of Defense has compiled a 700-page "Militarily Critical Technologies List." Its name suggests that this distinction has been taken into account. But in fact, the list in its present form is a combination of militarily critical and militarily useful technologies.

As I see it, that list should have two purposes. The first, which the present list fulfills admirably, is to alert the Department of Commerce to sensitive areas for Department of Defense reviews of proposed licenses for export of technical data to Communist countries. Remember that all export of technical data to those countries is already controlled. The full list would make that control more effective by highlighting militarily relevant technology.

"Recognition of the value of scientific interchange as a key part of a leadership strategy should be at the heart of our policy."

But the list has another purpose: the monitoring and control of technology exports to non-Communist nations. For that purpose, the present list is far too inclusive. In its present form it would put severe restrictions on the transfer of many militarily useful but not militarily critical technologies to those nations. This would hurt us economically, and it would hurt our ability to generate leadership technology by taking advantage of the best foreign knowledge. The harm caused by these two impacts, in my view, outweighs the benefits to us of restricting the flow of militarily useful technology to non-Communist nations.

So we need a second version of the "Militarily Critical Technologies List" — one listing only truly militarily critical technologies and aimed at technical exchanges with non-Communist countries. If a technology is found to be militarily useful only, then its export to non-Communist nations should not be subjected to the strictest controls, and we should rely on our ability to attain leadership as the means of keeping our edge.

Suppose now that we have found a technology that is dual use, has reached the engineering prototype stage, and has been determined to be militarily critical — all indicating that we should impose strong controls. The next issue is foreign availability — can it be obtained outside the United States?

There are really two questions here: what does foreign availability mean and what impact does it have on controllability? It is possible to define foreign availability so narrowly that you find that nothing is available in foreign countries. But you have to go beyond carbon-copy availability and consider functional equivalence as well; can the technology available overseas do the same job as the domestically available one? To again use an example from VLSI, two computer memory chips might be deemed functionally equivalent if they both pack the same number of bits onto the same area of silicon, with the same access time, even though they achieve this by totally different processes and design rules. The real question is whether the military function can be accomplished in an essentially equivalent way by a technology available from a non-U.S. source.

This concept of functional equivalence has been written into recent proposals for updating the Export Administration Act. I believe it belongs in the act.

The other part of this issue is, who has it? If another friendly nation already has a technology capability, we can gain more by including them within the fence than by shutting them out. Therefore, I recommend that we permit general licenses on the export to friendly nations with whom we have a bilateral agreement on technology that is available to them anyway, and that we seek to use those agreements to strengthen controls — to keep that technology from going beyond those countries to the Communist bloc.

Suppose a technology meets all three criteria discussed so far — it is dual use, it is militarily critical, and it is not available overseas. Then there is one more issue to be considered in applying controls: effectiveness of technology transfer.

The transfer of technology out of the laboratory and into use is not an easy task. It is a critical part of the work of an industrial laboratory, and I can assure you that it does not go very well if you rely on reports and documents alone. There is no reason to believe that such processes are very effective in any situation where the objective is to put technology to work in a practical way. Transferring equipment and detailed know-how is much more effective.

In the case of VLSI design and process technology, for example, we should be highly concerned with the Soviets' acquisition of know-how and equipment: for example, photolithography systems, steppers, ion implanters, and computer-aided design terminals and computers. We should also put strict controls on such things as equipment design drawings. Once again, the fence protecting these controls must surround other friendly nations, not the U.S. alone, because many of those nations are producing equipment as sophisticated as our own.

In considering the effectiveness of transfer methods, VLSI presents a special problem. Chips are so small that we must assume that even classified chips will be stolen. One additional layer of defense is to make the chip immune to reverse engineering; that is, immune to the practice of taking it apart layer by layer to find out how it was designed and made. I believe that there will be a technological solution to this problem and that VLSI and VHSIC chips can be made immune to reverse engineering, even if they are stolen.

Having put such defenses in place, we will do ourselves no good, and may do ourselves some harm, by further attempting to restrict the flow of basic scientific and engineering information on VLSI. Such a restriction would buy us negligible protection, in exchange for a considerable sacrifice of our capability for extending leadership.

As a stimulant to the creative process by which Western industrial nations have attained and maintained technological leadership, fundamental scientific and engineering knowledge is absolutely vital. Here we have something that helps us much more than it helps our adversaries. Recognition of the value of scientific interchange as a key part of a leadership strategy should be at the heart of our policy.

That's a look at the four issues I view as crucial in establishing a policy for the control of technology exports: dual use, military criticality, foreign availability, and effective transfer. I have indicated some of my views in discussing each of them. Let me conclude by summing up the recommendations I have made.

First, the areas of fundamental scientific and engineering research should remain unfettered by additional controls, even in dual use areas. The harm we would do to our leadership by such controls would outweigh any additional protective benefits that would accrue. This holds especially true for work in those fundamental areas that have become highly populated by foreign nationals in American laboratories.

Second, we should distinguish clearly between military criticality and military utility. This distinction might take the form of two militarily relevant technology lists. A long list of all militarily useful technologies — much like the present MCTL — would help deal with the problem of technology transfer to Communist bloc countries. A shorter one, containing only truly militarily critical technologies, would help deal with the problem of controlling technology exports to non-Communist nations.

Third, foreign availability should be defined in terms of functional equivalence. And we should permit general licenses for the export of critical technology to COCOM nations, or other nations with which we have bilateral agreements.

Finally, our export control regulations regarding non-Communist countries should focus on controlling the highly effective technology transfer mechanisms, such as the transfer of turnkey factories, process equipment, and extensive transfer of manufacturing techniques or teaching of those techniques.

By such means as these, I believe we can achieve the combination of leadership and protection that enables us to achieve the objective we all share — assuring that the United States is technologically superior to any adversary in weapons and defense, and remains that way.

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TECHNOLOGY TRANSFER GROUP CALLS FOR RECONSIDERATION OF EXPORT REGS

Washington, D.C., April 12--U.S. export controls "must accomodate to the realities of international trade," W. Clark McFadden II told the Permanent Subcommittee on Investigations of the Senate Committee on Governmental Affairs today during testimony. McFadden, who is an attorney with the firm of Verner, Liipfert, Bernhard and McPherson, was testifying on behalf of the Industry Coalition on Technology Transfer.

McFadden called for consideration of wide-spread foreign availability when establishing U.S. export controls, the elimination of restrictions on items that are subject to multilateral control (such as COCOM), and an increase in industry's role in the formulation and implementation of U.S. export regulations.

Much of the technology transfer group's testimony focused on current Department of Commerce proposals to change the distribution licensing procedure. "The Coalition believes the proposed regulations are misdirected and has expressed detailed reservations to the Department of Commerce," said McFadden. "Rather than being cut back, bulk licensing arrangements should be encouraged and depend primarily on the competence of the exporter and the reliability of the consignee."

Copies of the Coalition's testimony are available from the American Electronics Association.

The Industry Coalition on Technology Transfer represents over 3,000 high technology companies with 4 million employees in the United States, and world-wide sales of over $250 billion. Associations included in the coalition are: Aerospace Industries Association; American Electronics Association; Computer and Business Equipment Manufacturers Association; Electronic Industries Association; Scientific Apparatus Makers Association; Semiconductor Equipment and Materials Institute, and Semiconductor Industry Association.

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TECHNOLOGY TRANSFER

ICL STUDY VIEWS UK HIGH TECH EXPORTS, COCOM TALKS

Frankfurt/Main FINANCIAL TIMES in English 17 Feb 84 pp 1, 20

[Article by Christian Tyler, World Trade Editor]

[Text] THE U.S. appears to be trying to impose worldwide control over trade in high technology, according to an internal report by ICL, the leading British computer company.

The report accused U.S. authorities of using their far-reaching export control powers, ostensibly designed to stop strategic equipment and knowhow reaching the Soviet bloc, in such a way as to stifle trade and in some cases to maintain America's technological lead over other countries.

It identified what it called a "serious triple threat" to high-tech companies outside the U.S. Exports from the U.S. were being "severely and often indiscriminately" restricted; the U.S. market was virtually closed to non-U.S. companies; and the U.S. was pressing, through the General Agreement on Tariffs and Trade, for other countries to open their markets further to American companies.

It said that licences were increasingly being applied to people as well as computer hardware and software. ICL had to obtain U.S. export licences to cover knowledge carried in the heads of American engineers it employed.

Warning of "growing technological imperialism by the United States," the report's most important conclusion is that Britain must reduce its strategic dependence on U.S.-controlled technology and stimulate its native industry.

ICL confirmed yesterday that it had made a study of trade in technology but had never published it. The substance had, however, been discussed recently with the Department of Trade and Industry.

A spokesman said the report could not be quoted as representing ICL's views. "We are not prepared to discuss what we have actually said to the Government or what they have said to us. But, in common with other companies exporting to Comecon countries, ICL has experienced significant delays and technical restrictions in obtaining U.S. authority for the export of British-made computer products which incorporate American components."

Evidence contained in the ICL report helps explain why the UK Government is again challenging the reach of U.S. export and other laws into British sovereignty. Mr Norman Tebbit, Trade and Industry Secretary, and Whitehall officials, raised the issue last week in Washington.

Trade in high technology is also the subject of a debate in the House of Commons today on a motion by Mr Don Dixon, Labour MP for Jarrow.

The Department of Trade and Industry said last night it was aware of the ICL report as a "thinkpiece rather than a position paper." It probably was not directly referred to by Mr Tebbit in his discussions with senior members of the U.S. Administration.

It is known, however, that Mr Tebbit expressed concern over the control of "intangible" technology, and the authorities' increasing readiness to bar non-U.S. nationals from scientific conferences both in the U.S. and Europe.

Many of the questions raised by the ICL report are the subject of secret negotiation in the Paris-based Co-ordinating Committee for Multilateral Export Controls. While agreeing on the need to prevent militarily useful technology leaking to the Soviet Union, the allies have been unable so far to decide where to draw the embargo line on computers and software.

The British have rejected outline proposals by the U.S. and others for general controls on knowledge carried in technicians or scientists' heads. Their objections are that such controls are both unenforceable and contrary to Britain's unwritten constitution.

Commenting on the ICL claims yesterday, a U.S. Embassy official in London denied that U.S. export controls were arbitrary, although licensing procedures might be lengthy.

As for the allegation that the U.S. market was virtually closed, he cited Marconi's sale of display units for the F-16 fighter. There were some Congressional and security restrictions but they were not imposed across the board.

The official confirmed that the U.S. authorities were tightening up on international seminars

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[From Aviation Week & Space Technology, Oct. 3, 1983]

TASK FORCE URGES ARMS POLICY SHIFT

(By Paul Mann)

WASHINGTON.—A Defense Science Board task force has recommended the Defense Dept. be reorganized to give the research and engineering division primacy in administering international arms programs.

It said research and engineering authority should include administering Pentagon advisory clearances of the munitions export licenses used by the State Dept. to sanction direct commercial arms sales.

The license recommendation would, if adopted, contravene actions under way for some months to shift licensing away from research and engineering to the department's policy division, which is run by advocates of far stricter U.S. control over technology transfer (AW&ST Sept. 19, p. 71).

The task force was made up of Defense Dept. officials and aerospace executives.

Their report objected to the interim Defense Dept. policy for technology transfer, issued last December but not yet made official, and called for designating a high-level research and engineering official to serve as U.S. leader for international arms programs, with the policy branch of arms programs, with the policy branch of the department to play a coordinating role.

Instead of bolstering policy's role in technology transfer issues, as envisioned by the interim policy now in effect, the Defense Science Board would strengthen research and engineering's hand by reconstituting the Defense Security Asssistance Agency, which administers foreign military sales, as the International Arms Collaboration Agency (IACA), whose head would report directly to the under secretary of Defense for research and engineering, now Richard D. DeLauer.

"The International Arms Collaboration Agency should be the Defense Dept. focal point for all international arms programs, including Defense Dept. clearances of State Dept. Munitions Control licensing of direct commercial sales," the task force report said. This gave backing to DeLauer, who last Jan. 6 wrote a memorandum to under secretary of Defense for policy Fred C. Ikle, saying that before he could concur with the interim directive on technology transfer, language would have to be added giving DeLauer's office responsibility for preparing, as it does now, the final Defense Dept. position in each munitions license case.

The policy branch is now trying to absorb this responsibility, even though the interim directive on technology transfer has not been made formal, partly because of DeLauer's objections, according to one Defense official.

The study, titled Industry-to-Industry International Armaments Cooperation Phase I—NATO Europe, called for a presidential declaration of technological superiority as a national goal and for making that superiority a cornerstone of national defense strategy. A second phase of the study, now under way, takes up cooperation with Japan.

Malcolm R. Currie, chairman of the task force and executive vice president of Hughes Aircraft Co., said in a cover letter that of all the study's findings and recommendations, that regarding U.S. investment in research and development "is the most important by far. It essentially says that technological leadership is perishable (both through industrial sharing and, in general, through our free and competitive society); that our national technological lead is deteriorating", and that by a presidential declaration, "our explictly stated national goal should be world leadership both in defense and commercial technology."

Currie said the task force reluctantly had concluded that in the last year U.S./European industry cooperation had dwindled and the climate for cooperation had deteriorated. This made consideration of the report all the more urgent, he said.

The study consisted of interviews with State and Defense Dept. officials and military executives, meetings with European industry officials and parliamentarians and discussions with key members and staff of the House Armed Services and Foreign Affairs committees and the Senate Armed Services and Foreign Relations committees. The members of the task force included Gerald D. Sullivan, assistant deputy under secretary of Defense for international programs; H. K. Hebeler, president, Boeing Aerospace; Donald A. Hicks, senior vice president, Northrop; William H. Hulse, vice president, Westinghouse; Dr. Walter LaBerge, vice president, Lockheed Missiles & Space; Robert N. Parker, president, missiles/advanced programs, Vought; Herbert F. Rogers, vice president, General Dynamics; Joseph F. Shea, senior vice president, Raytheon; Arthur Stanziano, vice president, Hazeltine, and Michael I. Varymovych, vice president, Rockwell International.

The task force recommended designation of a principal deputy under secretary of Defense for research and engineering "to act as a focus and leader for cooperative programs, working with the services, industry, Congress and the allies." It said the Defense Dept. is not well organized now for cooperative programs because:

There is not senior official to direct and carry them out, and the existing apparatus is dispersed through the Defense Dept.

The autonomy of the military services gives them a veto over cooperative programs. A widespread perception exists that the services do not want industrial collaboration with NATO, partly because of concerns about technology transfer. But the services must support cooperation or it will fail, the study concluded. "Services (not the Office of the Secretary of Defense) are the customers of U.S. industry, so their support for cooperative programs must be convincing. Splits between OSD and [the] services also allow Congress to kill programs," it said.

A recommendation for greater European investment in military technology "does not mean to require massive financial investments," the study said, "but rather investments of high quality in basic technologies applicable to military systems."

It proposed that U.S. defense officials promote the idea at NATO meetings because it needs "greater understanding and better articulation."

The task force objected to the Defense Dept's interim technology transfer policy on grounds "it appeared to favor unduly denial of technology transfer rather than generating support for industrial collaboration.

"If left unchanged, it would lead to the creation of a large new bureaucracy which would inhibit industry-to-industry cooperation while not specifically addressing basic export policy."

The task force made these other points:

Economic impacts of defense carry more weight in Europe than in the U.S. Because of the smaller inventory requirements of foreign governments, their domestic industries have a greater export need than America's. Foreign industry views the U.S. market as a theoretical alternative to third countries but is skeptical that U.S. military services will procure "significant amounts of foreign defense equipment."

Most European companies do not understand the U.S. market and do a poor job of marketing here.

Necessity of assurance of third-country markets to Europe before undertaking a cooperative program conflicts with State Dept. policy of not approving third-country sales in advance.

International programs are more likely to be successful if participating government set policy but delegate program management and execution to contractors. At the working level of the Defense Dept.'s procurement community there is a sentiment that the government "must 'control' U.S. industry and 'protect foreign governments.' All too often, the defense procurement community has forced U.S. industry to relinquish its intellectual property rights when international business is involved and has dictated prescisely the terms and conditions of the cooperation. These initiatives are the prerogatives of industry, not of government."

The Militarily Critical Technologies List (MCTL), a voluminous technical catalogue of development, production and utilization technologies that the Defense Dept. regards as crucial to military capabilities should be declassified and published in a shorter, standard format. This would "avoid the undeserved criticism that it is only a tool for bureaucrats to impede the conduct of normal business."

A short list of critical technologies should be identified so that exports containing them would be subject to a special review and policy ruling at the highest levels, "while the others would get a more routine and expeditious treatment."

There is a general feeling in both the U.S. and Europe that the offset process—whereby foreign governments obtain participation by their national industries in defense production—"may be getting out of hand. Moreover, it is not likely that the smaller countries will go on spending as much on armaments as they are today without appreciable offsets of one type or another."

The Defense Dept. therefore should initiate a detailed study of the long-range burdens and benefits of offsets.

The Defense Science Board task force report will be combined with last year's Defense Dept. Task Group international coproduction/industrial participation agreements review, chaired by David B. H. Denoon, then deputy assistant secretary of Defense for international economic and energy affairs. Once merged, the two reports will form the basis of a new department-wide directive on codevelopment and coproduction in U.S./European cooperative programs.

USAF Col. Ronald L. Carlberg, special assistant for international arms cooperation to Richard D. DeLauer, under secretary of Defense for research and engineering, said last week that a draft of the directive probably would go to industry and the services in November or December. He said it would take final form next spring.

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